REF: 02-RF-02655; DWF-107-02

Rocky Flats Environmental Technology Site

PRE-DEMOLITION SURVEY REPORT (PDSR)

BUILDING 551 CLOSURE PROJECT

REVISION 0

December 31, 2002

CLASSIFICATION REVIEW NOT REQUIRED PER EXEMPTION NUMBER CEX-005-02

1/59

ADMIN RECORD
IA-A-001287

PRE-DEMOLITION SURVEY REPORT (PDSR)

BUILDING 551 CLOSURE PROJECT

REVISION 0

December 31, 2002

Reviewed by: _____ Date: 12/31/02
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ABBREVIATIONS/ACRONYMS

ACM	Asbestos Containing Material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
$DCGL_{EMC}$	Derived Concentration Guideline Level – elevated measurement comparison
$DCGL_W$	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data quality assessment
DQOs	Data quality objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, ventilation, air conditioning
HSAR	Historical Site Assessment Report
HEUN	Highly Enriched Uranyl Nitrate
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBP	Lead-based paint
LLW	Low-level waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
NORM	Naturally occurring radioactive material
NRA	Non-Rad-Added Verification
OSHA	Occupational Safety and Health Administration
PARCC	Precision, accuracy, representativeness, comparability and completeness
PCBs	Polychlorinated Biphenyls
PDS	Pre-demolition survey
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSA	Removable Surface Activity
RSP	Radiological Safety Practices
SVOCs	Semi-volatile organic compounds
TCLP	Toxicity Characteristic Leaching Procedure
TSA	Total surface activity
VOCs	Volatile organic compounds

1 INTRODUCTION

A Pre-Demolition Survey (PDS) was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP) to enable compliant disposition and waste management of Building 551. Building surfaces characterized as part of this PDS included the floor, walls, ceiling, and roof. Environmental media beneath and surrounding the facility was not within the scope of this PDS and will be addressed in accordance with the Soil Disturbance Permit process and in compliance with RFCA.

During the initial Reconnaissance Level Characterization, Building 551 was typed as a Type 2 facility. After completion of the RLCR and CDPHE concurrence regarding a Type 2 facility classification, additional radiological characterization sampling was conducted on the building exterior. The sample results confirmed that the initial Type 2 designation was erroneous (i.e., the elevated radiological activity on the B551 roof identified in the RLCR was actually due to naturally occurring radioactive material, Po-210). Therefore, a typing change from a Type 2 to a Type 1 designation was obtained from CDPHE (refer to Steve Gunderson letter to Joseph Legare, RE: B662 and B551 Change from Type 2 to Type 1, dated March 22, 2002). Since the initial B551 RLCR did not meet the Data Quality Objectives of the PDSP, this report documents the follow-up PDS performed in B551.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed, among these is Building 551. The location of this facility is shown in Attachment A, Facility Location Map. This facility no longer supports the RFETS mission and will be removed to reduce Site infrastructure, risks and/or operating costs.

Before this Type 1 facility can be demolished, the Data Quality Objectives (DQOs) for a Pre-Demolition Survey (PDS) must be satisfied; this document presents the PDS results for Building 551. The PDS was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). The PDS is built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment and Reconnaissance Level Characterization Report for Group A facilities, dated October 14, 1999.

1.1 Purpose

The purpose of this report is to communicate and document the results of the Building 551 PDS effort. A PDS is performed prior to building demolition to define the final radiological and chemical conditions of a facility. Final conditions are compared with the release limits for radiological and non-radiological contaminants. PDS results will enable project personnel to make final disposition decisions, develop related worker health and safety controls, and estimate waste volumes by waste types.

1.2 Scope

This report presents the final radiological and chemical conditions of Building 551. Environmental media beneath and surrounding the facility is not within the scope of this PDSR and will be addressed in accordance with the Soil Disturbance Permit process and in compliance with RFCA.

1.3 Data Quality Objectives

The Data Quality Objectives (DQOs) used in designing this PDS were the same DQOs identified in the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). Refer to section 2.0 of MAN-127-PDSP for these DQOs.

2 HISTORICAL SITE ASSESSMENT

A Facility-specific Historical Site Assessment (HSA) and a Reconnaissance Level Characterization (RLC) was conducted to understand the facility history and related hazards. The HSA consisted of facility walkdowns, interviews, and document reviews, including review of the Historical Release Report, and were used to design the RLC and PDS. The Building 551 RLC was performed in FY 1999 as part of the Group A Facilities' RLCR (refer to *Reconnaissance Level Characterization Report for Group A Facilities,* dated October 14, 1999, Rev. 0). The HSA and RLC results were used to develop radiological and chemical PDS characterization plans. The HSA and RLC documentation are located in the RISS Characterization Project files.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

Building 551 was characterized for radiological hazards per the PDSP. Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on the facility surfaces. Measurements were performed to evaluate the contaminants of concern. Based upon a review of historical and process knowledge, building walk-downs, and MARSSIM guidance, a Pre-Demolition Survey Plan was developed during the planning phase that describes the minimum survey requirements (refer to the RISS Characterization Project files for the Building 551 Pre-Demolition Radiological Characterization Plan). Three radiological survey unit packages were developed: 551-A-001 and 551-A-002 for the B551 interior and 551-B-003 for the B551 exterior. Individual radiological survey unit packages are maintained in the RISS Characterization Project files.

Building 551 survey unit packages were developed in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure.* Total surface activity (TSA), removable surface activity (RSA), and scan measurements were collected in accordance with RSP 16.02 *Radiological Surveys of Surfaces and Structures.* Radiological survey data were verified, validated and evaluated in accordance with RSP 16.04, *Radiological Survey/Sample Data Analysis.* Quality control measures were implemented relative to the survey process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control.* Radiological survey data, statistical analysis results, survey locations, and radiological scan maps are presented in Attachment B, Radiological Data Summaries and Survey Maps.

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B551 Interior (Survey Units 551-A-001 and 551-A-002)
The interior was classified as a MARSSIM Class 3 Survey Unit. A total of 87 TSA measurements (61 random, 21 biased and 5 QC) and 82 RSA measurements (61 random, 21 biased) were taken, and a minimum of a 3% scan survey performed at biased locations. The PDS data confirmed that the facility interior does not contain radiological contamination above the surface contamination guidelines provided in the PDSP.

B551 Exterior (Survey Unit 551-B-003)
The B551 exterior was classified as a MARSSIM Class 3 Survey Unit. A total of 73 TSA measurements (59 random, 10 biased and 4 QC) and 69 RSA measurements (59 random, 10 biased) were taken, and a minimum of a 3% scan survey performed at biased locations. The PDS data confirmed that the facility exterior does not contain radiological contamination above the surface contamination guidelines provided in the PDSP.

Elevated activity at numerous B551 exterior roof locations was identified during the RLC and PDS. In both cases, coupon samples were taken at the locations with the highest activity and analyzed by ISOCS gamma spectroscopy. Results confirmed no DOE Added material exists; the activity was determined to be uranium and/or other naturally occurring isotopes. All results were evaluated against, and were below the Transuranic $DCGL_W$ (100 dpm/100cm^2) and the Uranium $DCGL_W$ (5,000 dpm/100cm^2), thereby satisfying PDSP unrestricted release limits for both transuranics and uranium. On this basis, transuranic values for these locations were reported as zero (0) net activity in the Survey Unit 551-B-003 Radiological Data Summary.

Elevated activity at two exterior concrete locations (points 67 and 68) were identified during the PDS. Concrete samples were taken at both locations and analyzed by ISOCS gamma spectroscopy. Results confirmed no DOE Added material exists; the activity was determined to be uranium and/or other naturally occurring isotopes. All results were evaluated against, and were below the Transuranic $DCGL_W$ (100 dpm/100cm^2) and the Uranium $DCGL_W$ (5,000 dpm/100cm^2), thereby satisfying PDSP unrestricted release limits for both transuranics and uranium. On this basis, transuranic values for these locations were reported as zero (0) net activity in the Survey Unit 551-B-003 Radiological Data Summary.

Refer to the applicable data summaries in Attachment B, Radiological Data Summary and Survey Maps, for details on the investigation results, as well as the ISOCS gamma spectroscopy data from recent PDS media samples as well as RLC metal roof samples. Isolation control postings are displayed on the building to ensure no radioactive materials are introduced. Radiological survey data, statistical analysis results, survey locations, and radiological scan maps are presented in Attachment B, Radiological Data Summary and Survey Maps.

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4 CHEMICAL CHARACTERIZATION AND HAZARDS

Building 551 was characterized for chemical hazards per the PDSP. Chemical characterization was performed to determine the nature and extent of chemical contamination that may be present on, or in the facility. Based upon a review of historical and process knowledge, visual inspections, RLC data and PDSP DQOs, additional sampling needs were determined. A Chemical Characterization Plan was developed during the planning phase that describes sampling requirements and the justification for the sample locations and estimated sample numbers. The contaminants of concern were asbestos, beryllium, metals, RCRA/CERCLA constituents, and polychlorinated biphenyls (PCBs). Refer to Attachment C, Chemical Summary Data and Sample Maps, for details on sample results and sample locations. Isolation control postings are displayed on affected structures to ensure no hazardous materials are introduced.

4.1 Asbestos

Sitex Environmental Inc. performed a comprehensive asbestos inspection of Building 551 in 1996 (refer to *Asbestos Inspection and Operations and Maintenance Plan for Building 551, Project No. 108230, dated December 31, 1996*). However, after review of the Sitex report, RMRS determined the Sitex asbestos inspection did not include a sufficient number of samples for the drywall systems. As a result, additional asbestos sampling was conducted in Building 551 by RMRS to ensure adequate asbestos characterization of the drywall systems (refer to RF/RMRS-98-272.UN, *Asbestos, Polychlorinated Biphenyls and Paint Characterization Report – Building 551,* dated September 3, 1998). Moreover, during the B551 RLC, seven (7) bulk samples were taken of the black tar roofing and flashing. These RLC samples identified the black tar and flashing as asbestos containing 10% to 25% Chrysotile (refer to the *Reconnaissance Level Characterization Report for Group A Facilities*, Revision 0, dated October 14, 1999). During the PDS, window caulking, drywall and joint compound, sandy brown exterior finish, silver paint, black roofing tar, and paint on the concrete mortar units (CMU) were sampled and analyzed for asbestos. CDPHE-certified asbestos inspectors conducted the inspections, and suspect materials were identified for sampling at the discretion of the inspectors. Based on the PDS asbestos inspections and prior inspections, the following building materials were identified as asbestos containing.

Building	Material	Friable or Non-Friable	Approximate Quantities
551	Concrete Mortar Walls	Category 1 Non-Friable	2,400 square feet; 100 cubic feet
551	Transite Wall Panel	Category 2 Non-friable	3,925 square feet; 981 cubic feet
551	Black Roofing Tar and Silver Paint	Category 1 Non-Friable	24,000 square feet; 10,000 cubic feet
551	Vinyl Floor Tile and Mastic	Category 1 Non-Friable	855 square feet; 142 cubic feet
551	Thermal Systems Insulation	Friable	3,450 lineal feet; 288 cubic feet

PDS asbestos laboratory sample data and location maps are contained in Attachment C, Chemical Data Summaries and Sample Maps.

4.2 Beryllium (Be)

A beryllium survey was conducted in Building 551 as part of the *Reconnaissance Level Characterization Report for Group A Facilities*, Revision 0, dated October 14, 1999. For the RLCR, limited biased sampling was performed in Building 551, the three (3) RLC beryllium sample smear results were less than the investigative level of 0.1 $\mu g/100cm^2$. Additional biased beryllium sampling was conducted as part of the PDS, and all 25 sample results were less than the investigative level of 0.1 $\mu g/100cm^2$. The beryllium smear samples collected for the PDS were in accordance with the PDSP and the *Beryllium Characterization Procedure,* PRO-536-BCPR, Revision 0, September 9, 1999. PDS beryllium laboratory sample data and location maps are contained in Attachment C, Chemical Data Summaries and Sample Maps.

4.3 RCRA/CERCLA Constituents [including metals and volatile organic compounds (VOCs)]

Based on the *Reconnaissance Level Characterization Report for Group A Facilities*, Revision 0, dated October 14, 1999, personnel interviews, facility walkdowns and a review of historical WEMS/WSRIC processes, B551 contained the Chemical Dispensary and several waste storage units. Small spills, of volumes much less than CERCLA reportable quantities, are known to have occurred in the building and were cleaned up by the site HAZMAT response team. These spills were of materials such as paints, solvents, and corrosives. There is no evidence that any of these activities have led to contamination of the building structure or slab. A visual inspection of the building by RISS Environmental Compliance personnel verified the absence of hazardous waste stains and/or residuals on the walls, interior surfaces of the roof and concrete pad. The vault used to store flammable products and chemical waste does have some areas where spilled paint is evident, but this is not a RCRA concern or a reason to disqualify the concrete from onsite recycling in accordance with the Concrete Recycling RSOP.

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RCRA/CERCLA contamination is not a concern, therefore, samples were not taken as part of this PDS. The concrete can be used for backfill on-site per the RFCA RSOP for Recycling Concrete.

The building may contain some RCRA regulated items, such as mercury thermostats, fluorescent light bulbs, mercury vapor light bulbs, mercury containing gauges, circuit boards, and lead-acid batteries. However, these items will be removed and will be managed in accordance with the Colorado Hazardous Waste Act prior to demolition.

4.4 Polychlorinated Biphenyls (PCBs)

Based on the HSAR for B551, interviews, facility walkdowns and a review of historical WEMS/WSRIC processes, B551 does not have a history of PCB use or storage. Also, based on the age of B551, paints used on the facility may contain PCBs, therefore, painted surfaces will be managed as PCB Bulk Product Waste. Painted concrete surfaces can be used as backfill on site in accordance with approval received from EPA in November 2001 (letter from K. Clough, US EPA Region 8, to J. Legare, DOE RFFO, 8EPR-F, Approval of the Risk-Based Approach for Polychlorinated Biphenyls (PCB)-Based Painted Concrete), provided the concrete meets the unrestricted-release criteria outlined in the Concrete Recycling RSOP. The facility may have contained PCB fluorescent light ballast, however, all PCB ballast will be removed from the facility and will be properly managed prior to demolition, unless approval is granted prior to demolition, to treat the ballast as PCB Bulk Product Waste. If approval is granted, only leaking ballast will be removed and handled as PCB waste.

5 PHYSICAL HAZARDS

Physical hazards associated with Building 551 consists of those common to standard industrial environments, and include hazards associated with energized systems, utilities, and trips and falls. There are no unique hazards associated with the facility. The facility has been relatively well maintained and is in good physical condition, and therefore, does not present hazards associated with building deterioration. Physical hazards are controlled by the Site Occupational Safety and Industrial Hygiene Program, which is based on OSHA regulations, DOE orders, and standard industry practices.

6 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of Building 551, and consequent waste management, are of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments B and C) were verified and validated relative to DOE quality requirements, applicable EPA guidance, and original project DQOs.

In summary, the Verification and Validation (V&V) process corroborates that the following elements of the characterization process are adequate:

- the *number* of samples and surveys;
- the *types* of samples and surveys;
- the sampling/survey process as implemented "in the field"; and

- the laboratory analytical process, relative to accuracy and precision considerations.

Details of the DQA are provided in Attachment D.

7 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The demolition and disposal of Building 551 will generate a variety of wastes. Estimated waste types and waste volumes are presented below. All wastes can be disposed of as sanitary waste, except PCB Bulk Product Waste. PCB ballast and hazardous waste items have been removed and managed pursuant to Site PCB and waste management procedures. All concrete surfaces can be used as backfill onsite in accordance with the RFCA RSOP for Recycling Concrete.

WASTE TYPES AND VOLUME ESTIMATES

Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste (cu ft)
551	81,000	8.0	3,466	5,800	1,500	Transite Wall Panels – 981 cubic feet; Black Tar Roofing & Silver Paint – 10,000 cubic feet; Vinyl floor tile and mastic – 142 cubic feet; Thermal Systems Insulation – 288 cubic feet; CMU – 100 cubic feet	none

8 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, Building 551 is classified as an RFCA Type 1 facility pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999). Building 551 possesses no radiological or chemical contamination in excess of the PDSP unrestricted release limits. PCB ballast and hazardous waste items will be removed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations. Asbestos containing materials will be properly abated per CDPHE regulations prior demolition.

The PDS for Building 551 was performed in accordance with the DDCP and PDSP, all PDSP DQOs were met, and all data satisfied the PDSP DQA criteria. Environmental media beneath and surrounding the facility will be addressed at a future date in accordance with the Soil Disturbance Permit process and in compliance with RFCA. To ensure that Building 551 remains free of contamination and that PDS data remain valid, isolation controls have been established, and the facility is posted accordingly.

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9 REFERENCES

DOE/RFFO, CDPHE, EPA, 1996. Rocky Flats Cleanup Agreement (RFCA), July 19, 1996.

DOE Order 5400.5, "Radiation Protection of the Public and the Environment."

DOE Order 414.1A, "Quality Assurance."

EPA, 1994. "The Data Quality Objective Process," EPA QA/G-4.

K-H, 1999. Decommissioning Program Plan, June 21, 1999.

MAN-131-QAPM, *Kaiser-Hill Team Quality Assurance Program*, Rev. 1, November 1, 2001.

MAN-076-FDPM, *Facility Disposition Program Manual*, Rev. 3, January 1, 2002.

MAN-077-DDCP, *Decontamination and Decommissioning Characterization Protocol*, Rev. 4, July 15, 2002.

MAN-127-PDSP, *Pre-Demolition Survey Plan for D&D Facilities*, Rev. 1, July 15, 2002.

MARSSIM - Multi-Agency Radiation Survey and Site Investigation Manual (NUREG-1575, EPA 402-R-97-016).

PRO-475-RSP-16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation, and Closure,* Rev. 1, May 22, 2001.

PRO-476-RSP-16.02, *Pre-Demolition (Final Status) Radiological Surveys of Surfaces and Structures*, Rev. 1, May 22, 2001.

PRO-477-RSP-16.03, *Radiological Samples of Building Media*, Rev. 1, May 22, 2001.

PRO-478-RSP-16.04, *Radiological Survey/Sample Data Analysis for Final Status Survey*, Rev. 1, May 22, 2001.

PRO-479-RSP-16.05, *Radiological Survey/Sample Quality Control for Final Status Survey*, Rev. 1, May 22, 2001.

PRO-563-ACPR, Asbestos Characterization Procedure, Revision 0, August 24, 1999.

PRO-536-BCPR, Beryllium Characterization Procedure, Revision 0, August 24, 1999.

RFETS, Environmental Waste Compliance Guidance #25, Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition.

RFETS, Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal.

RFETS, RFCA RSOP for Recycling Concrete, September 28, 1999

Reconnaissance Level Characterization Report for Group A Facilities, Revision 0, October 14, 1999.

Historical Site Assessment incorporated as part of the Group A Facilities' RLCR, dated October 14, 1999.

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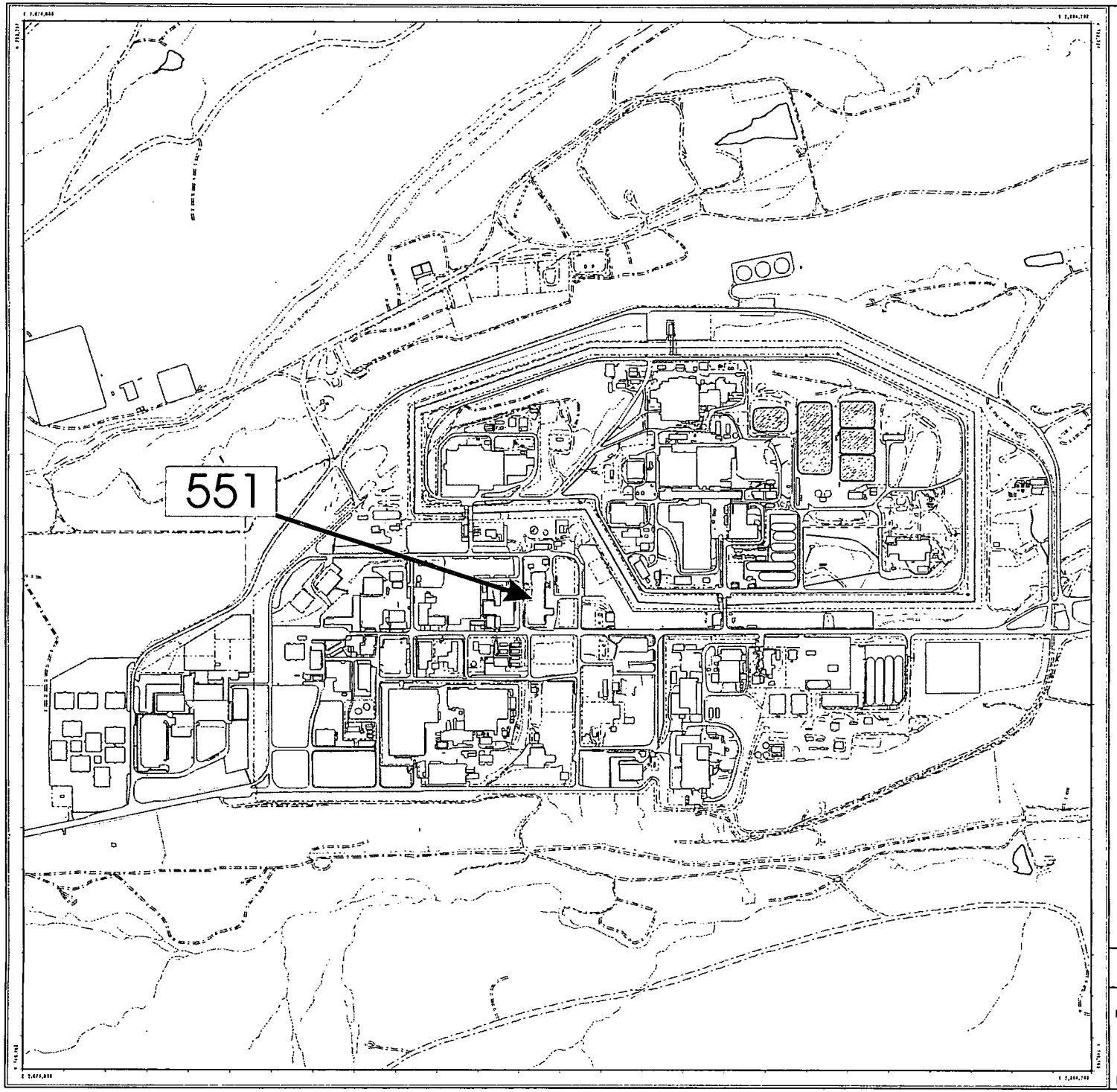
ATTACHMENT A

Facility Location Map



Building 551

Standard Map Features

- Buildings and other structures
- Solar Evaporation Ponds (SEPs)
- Lakes and ponds
- Streams, ditches, or other drainage features
- Fences and other barriers
- Paved roads
- Dirt roads

DATA SOURCE BASE FEATURES:
Buildings, fences, hydrography, roads and other structures from 1994 aerial fly-over data captured by EG&G RSL, Las Vegas.
Digitized from the orthophotographs. 1/95

N

Scale = 1 : 12450
1 inch represents approximately 1038 feet
250 0 500 1000 ft

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

GIS Dept. 303-966-7707

Prepared by: DynCorp — THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: FY 2002

December 19, 2002

N:_Svr w:/projects/fy2002/02-0589/overview_551.cdr

ATTACHMENT B

Radiological Data Summaries and Survey Maps

SURVEY UNIT 551-A-001
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B551 Interior North

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Total Surface Activity Measurements

	36 Number Required	52 Number Obtained	
MIN	-15.0		dpm/100 cm^2
MAX	71.7		dpm/100 cm^2
MEAN	13.9		dpm/100 cm^2
STD DEV	17.8		dpm/100 cm^2
TRANSURANIC DCGL$_W$	100		dpm/100 cm^2

Removable Activity Measurements

	36 Number Required	36 Number Obtained	
MIN	-0.9		dpm/100 cm^2
MAX	1.0		dpm/100 cm^2
MEAN	-0.1		dpm/100 cm^2
STD DEV	0.5		dpm/100 cm^2
TRANSURANIC DCGL$_W$	20		dpm/100 cm^2

SURVEY UNIT 551-A-001
TSA - DATA SUMMARY

Manufacturer:	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech
Model:	DP-6	DP-6	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#:	1	2	3	16	17	18	22
Serial #:	1366	1366	3125	1513	1513	1513	2344
Cal Due Date:	4/30/03	4/30/03	4/21/03	2/1/03	2/1/03	2/1/03	1/17/03
Analysis Date:	11/6/02	11/7/02	11/7/02	11/21/02	11/25/02	11/25/02	12/19/02
Alpha Eff. (c/d):	0.194	0.194	0.213	0.207	0.207	0.207	0.207
Alpha Bkgd (cpm)	1.3	1.3	2.0	2.7	4.0	4.0	1.3
Sample Time (min)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
MDC (dpm/100cm^2)	48.0	48.0	48.0	48.0	48.0	48.0	48.0

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2)[1]
1	1	4.7	24.2	4.0	20.6	3.2
2	17	7.3	35.3	8.0	38.6	14.2
3	16	12.0	58.0	1.3	6.3	36.9
4	1	6.0	30.9	2.7	13.9	9.9
5	16	3.3	15.9	3.3	15.9	-5.1
6	17	7.3	35.3	3.3	15.9	14.2
7*	*	*	*	*	*	30.2
8	17	7.0	33.8	6.0	29.0	12.8
9	17	6.0	29.0	6.0	29.0	7.9
10	16	6.0	29.0	4.0	19.3	7.9
11	17	8.7	42.0	8.0	38.6	21.0
12	1	4.7	24.2	4.0	20.6	3.2
13*	*	*	*	*	*	51.4
14	1	4.7	24.2	2.0	10.3	3.2
15	16	5.3	25.6	3.3	15.9	4.5
16	1	4.0	20.6	5.3	27.3	-0.4
17	17	9.3	44.9	8.0	38.6	23.9
18	2	18.0	92.8	5.3	27.3	71.7
19	1	6.0	30.9	3.3	17.0	9.9
20	17	6.0	29.0	5.3	25.6	7.9
21	1	3.3	17.0	2.0	10.3	-4.0
22	18	14.0	67.6	6.0	29.0	46.6
23	1	7.3	37.6	2.0	10.3	16.6
24	1	10.0	51.5	8.0	41.2	30.5
25	17	6.7	32.4	4.7	22.7	11.3
26	1	5.3	27.3	8.0	41.2	6.3
27	3	6.7	31.5	2.7	12.7	10.4
28	3	1.3	6.1	4.0	18.8	-15.0
29	3	1.3	6.1	2.0	9.4	-15.0
30	3	4.7	22.1	4.7	22.1	1.0

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SURVEY UNIT 551-A-001
TSA - DATA SUMMARY

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2)[1]
31	2	9.3	47.9	3.8	19.6	26.9
32	3	5.3	24.9	2.0	9.4	3.8
33	3	4.0	18.8	3.3	15.5	-2.3
34	2	8.7	44.8	7.3	37.6	23.8
35	3	6.7	31.5	1.3	6.1	10.4
36	3	8.7	40.8	0.0	0.0	19.8
					21.1	Sample LAB Average
					MIN	-15.0
					MAX	71.7
					MEAN	13.9
					SD	17.8
					Transuranic $DCGL_W$	100

1 - Average LAB used to subtract from Gross Sample Activity

QC Measurements

27QC	18	12.7	61.4	7.6	36.7	40.3
33QC	18	2.7	13.0	2.0	9.7	-8.0
					23.2	QC LAB Average
					MIN	-8.0
					MAX	40.3
					MEAN	16.1
					Transuranic $DCGL_W$	100

1 - Average QC LAB used to subtract from Gross Sample Activity

* The initial Sample Net Activity for locations 7 and 13 was 109.0 and 242.9 dpm/100cm^2 respectively. Eight additional 90 second TSA measurements were collected within the surrounding square meter of each elevated measurement location. The one square meter mean at each location was less than 100 dpm/100cm^2, with no single total surface activity measurement in excess of 300 dpm/100cm^2. The one square meter mean value for locations 7 and 13 is reported in the TSA results table above. Refer to the investigation table below for results of the nine point investigation.

7	2	25.3	130.4	7.3	37.6	99.3
7.1	22	9.3	44.9	6.7	32.4	23.9
7.2	22	6.0	29.0	6.7	32.4	7.9
7.3	22	6.7	32.4	6.7	32.4	11.3
7.4	22	4.7	22.7	6	29.0	1.6
7.5	22	19.7	95.2	6	29.0	74.1
7.6	22	7.0	33.8	6	29.0	12.8
7.7	22	9.3	44.9	6	29.0	23.9
7.8	22	8	38.6	6	29.0	17.6
					31.1	Sample LAB Average
					MIN	1.6
					MAX	99.3
					MEAN	30.3

13	18	54.7	264.3	3.3	15.9	248.3
13.1	18	6.0	29.0	3.3	15.9	13.0
13.2	18	6.0	29.0	3.3	15.9	13.0
13.3	18	12.7	61.4	3.3	15.9	45.4
13.4	18	6.7	32.4	3.3	15.9	16.4
13.5	18	6.7	32.4	3.7	17.9	16.4
13.6	18	20.0	96.6	3.7	17.9	80.7
13.7	18	9.3	44.9	2.7	13.0	29.0
13.8	18	3.3	15.9	3.3	15.9	0.0
					16.0	Sample LAB Average
					MIN	0.0
					MAX	248.3
					MEAN	51.4

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SURVEY UNIT 551-A-001
RSC - DATA SUMMARY

Manufacturer:	Eberline	Eberline	Eberline	Eberline	Eberline	Eberline
Model:	SAC-4	SAC-4	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#:	9	10	11	12	19	20
Serial #:	959	833	963	952	959	833
Cal Due Date:	1/18/03	2/28/03	1/3/03	1/31/03	1/18/03	2/28/03
Analysis Date:	11/15/02	11/15/02	11/15/02	11/15/02	11/25/02	11/25/02
Alpha Eff. (c/d):	0.33	0.33	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.3	0.1	0.0	0.0	0.2	0.0
Sample Time (min)	2	2	2	2	2	2
Bkgd Time (min)	10	10	10	10	10	10
MDC (dpm/100cm^2)	9.0	9.0	9.0	9.0	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
1	9	1	-0.4
2	19	0	-0.6
3	20	1	0.5
4	10	0	-0.3
5	19	0	-0.6
6	20	1	0.5
7	10	0	-0.3
8	19	1	-0.1
9	20	2	1.0
10	19	0	-0.6
11	20	0	0.0
12	11	0	0.0
13	19	1	-0.1
14	12	0	0.0
15	20	1	0.5
16	10	0	-0.3
17	19	0	-0.6
18	12	0	0.0
19	9	3	0.6
20	20	2	1.0
21	11	2	1.0
22	19	0	-0.6
23	9	0	-0.9
24	12	0	0.0
25	20	0	0.0
26	10	0	-0.3
27	11	0	0.0
28	9	0	-0.9
29	12	1	0.5
30	11	0	0.0
31	10	0	-0.3
32	9	0	-0.9
33	12	0	0.0
34	11	1	0.5
35	10	0	-0.3
36	9	0	-0.9
		MIN	-0.9
		MAX	1.0
		MEAN	-0.1
		SD	0.5
		Transuranic DCGL$_W$	20

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SURVEY UNIT 551-A-002
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B551 Interior South

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Total Surface Activity Measurements

	45 Number Required	46 Number Obtained	
MIN	-14.9		dpm/100 cm^2
MAX	80.6		dpm/100 cm^2
MEAN	16.8		dpm/100 cm^2
STD DEV	22.8		dpm/100 cm^2
TRANSURANIC DCGL$_W$	100		dpm/100 cm^2

Removable Activity Measurements

	45 Number Required	46 Number Obtained	
MIN	-1.8		dpm/100 cm^2
MAX	0.5		dpm/100 cm^2
MEAN	-0.3		dpm/100 cm^2
STD DEV	0.8		dpm/100 cm^2
TRANSURANIC DCGL$_W$	20		dpm/100 cm^2

551-A-002
TSA Data Summary

Manufacturer:	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech
Model:	DP-6	DP-6	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#:	1	4	6	7	8	9	21
Serial #:	3104	3261	2344	1366	3125	2394	3105
Cal Due Date:	2/1/03	2/23/03	1/17/03	4/30/03	4/12/03	3/5/03	1/17/03
Analysis Date:	10/24/02	10/24/02	10/24/02	11/11/02	11/11/02	11/11/02	12/17/02
Alpha Eff. (c/d):	0.216	0.210	0.222	0.194	0.213	0.219	0.212
Alpha Bkgd (cpm)	3.3	3.3	0.7	2.0	0.0	1.0	1.3
Sample Time (min)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
MDC (dpm/100cm^2)	48.0	48.0	48.0	48.0	48.0	48.0	48.0

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2)[1]
1	4	10.0	47.6	5.3	25.2	29.6
2	1	6.0	27.8	6.0	27.8	9.8
3	1	4.7	21.8	4.0	18.5	3.7
4	6	5.3	23.9	4.0	18.0	5.9
5	1	4.0	18.5	4.0	18.5	0.5
6	6	20.9	94.1	2.7	12.2	76.1
7	7	4.0	20.6	1.3	6.7	2.6
8	6	1.3	5.9	3.3	14.9	-12.2
9	1	6.0	27.8	4.7	21.8	9.8
10	7	6.0	30.9	5.3	27.3	12.9
11	1	14.7	68.1	3.3	15.3	50.0
12	1	6.0	27.8	2.7	12.5	9.8
13	1	8.0	37.0	4.0	18.5	19.0
14	8	6.7	31.5	2.7	12.7	13.4
15	4	16.0	76.2	5.3	25.2	58.2
16	8	2.7	12.7	0.0	0.0	-5.3
17	4	5.3	25.2	4.0	19.0	7.2
18	1	15.3	70.8	3.3	15.3	52.8
19	6	3.3	14.9	2.7	12.2	-3.1
20	6	0.7	3.2	2.0	9.0	-14.9
21	7	5.3	27.3	3.3	17.0	9.3
22	1	2.0	9.3	2.0	9.3	-8.8
23	4	7.3	34.8	5.3	25.2	16.7
24	1	11.3	52.3	4.0	18.5	34.3
25	1	7.3	33.8	4.7	21.8	15.8
26	4	4.0	19.0	6.0	28.6	1.0
27	6	8.0	36.0	4.7	21.2	18.0
28	4	4.7	22.4	4.0	19.0	4.4
29	1	6.7	31.0	4.0	18.5	13.0
30	1	5.3	24.5	4.0	18.5	6.5
31	4	5.3	25.2	4.0	19.0	7.2
32	1	12.7	58.8	5.3	24.5	40.8
33	1	8.7	40.3	5.3	24.5	22.3
34	6	12.0	54.1	2.7	12.2	36.0
35	4	7.3	34.8	4.7	22.4	16.7
36	4	2.7	12.9	3.3	15.7	-5.2
37	4	14.0	66.7	2.0	9.5	48.7
38	9	1.3	5.9	2.7	12.3	-12.1
39	4	20.7	98.6	3.3	15.7	80.6
40	6	6.0	27.0	6.0	27.0	9.0
41	4	14.7	70.0	2.7	12.9	52.0
42	4	5.3	25.2	7.3	34.8	7.2
43	4	11.3	53.8	3.3	15.7	35.8
44	6	2.7	12.2	6.0	27.0	-5.8
45	6	4.7	21.2	4.0	18.0	3.2
46	6	4.0	18.0	2.0	9.0	0.0

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551-A-002
TSA Data Summary

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2)[1]
6 (under carpet)	21	2.7	12.7	1.3	6.1	-5.3
37 (under carpet)	9	4.0	18.3	6.7	30.6	0.3
45 (under carpet)	9	6.7	30.6	2.0	9.1	12.6
					18.0	Sample LAB Average
					MIN	-14.9
					MAX	80.6
					MEAN	16.8
					SD	22.8
					Transuranic $DCGL_W$	100

1 - Average LAB used to subtract from Gross Sample Activity

2 - The Initial Sample Net Activity for location 6 (under carpet) was 106.2 dpm/100cm^2 This location was re-surveyed after a short decay period, re-survey results are reported.

QC Measurements

43 QC	9	10.7	48.9	4.0	18.3	30.8
15 QC	9	13.3	60.7	2.0	9.1	42.7
1 QC	9	10.0	45.7	5.3	24.2	27.6
					16.7	QC LAB Average
					MIN	27.6
					MAX	42.7
					MEAN	35.2
					Transuranic $DCGL_W$	100

1 - Average QC LAB used to subtract from Gross Sample Activity

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551-A-002
RSC - DATA SUMMARY

Manufacturer:	Eberline	Eberline	Eberline
Model:	SAC-4	SAC-4	SAC-4
Instrument ID#:	14	15	16
Serial #:	959	833	963
Cal Due Date:	1/18/03	2/28/03	1/3/03
Analysis Date:	11/18/02	11/18/02	11/18/02
Alpha Eff. (c/d):	0.330	0.330	0.330
Alpha Bkgd (cpm)	0.1	0.1	0.6
Sample Time (min)	2	2	2
Bkgd Time (min)	10	10	10
MDC (dpm/100cm^2)	9.0	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
1	14	0	-0.1
2	15	0	0.0
3	14	1	0.4
4	17	1	0.5
5	15	1	0.2
6	15	0	-0.3
7	14	0	-0.1
8	14	0	-0.1
9	16	0	-1.8
10	14	1	0.4
11	16	1	-1.3
12	15	1	0.2
13	17	0	0.0
14	14	1	0.4
15	17	0	0.0
16	14	1	0.4
17	14	1	0.4
18	17	0	0.0
19	16	1	-1.3
20	17	0	0.0
21	14	0	-0.1
22	17	0	0.0
23	16	1	-1.3
24	14	0	-0.1
25	16	1	-1.3
26	14	0	-0.1
27	16	0	-1.8
28	14	0	-0.1

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551-A-002
RSC - DATA SUMMARY

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
29	15	0	-0.3
30	15	1	0.2
31	17	1	0.5
32	17	1	0.5
33	15	0	-0.3
34	16	0	-1.8
35	16	0	-1.8
36	16	0	-1.8
37	16	1	-1.3
38	16	0	-1.8
39	14	0	-0.1
40	15	1	0.2
41	17	0	0.0
42	15	1	0.2
43	15	0	-0.3
44	17	1	0.5
45	16	1	-1.3
46	15	1	0.2
6 (under carpet)	17	0	0.0
37 (under carpet)	15	1	0.2
45 (under carpet)	16	0	-1.8
		MIN	-1.8
		MAX	0.5
		MEAN	-0.3
		SD	0.8
		Transuranic $DCGL_W$	**20**

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SURVEY UNIT 551-B-003
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B551 Exterior

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Total Surface Activity Measurements

	69 Number Required	69 Number Obtained	
MIN	-4.2		dpm/100 cm^2
MAX	72.0		dpm/100 cm^2
MEAN	26.3		dpm/100 cm^2
STD DEV	23.5		dpm/100 cm^2
TRANSURANIC DCGL$_W$	100		dpm/100 cm^2

Removable Activity Measurements

	69 Number Required	69 Number Obtained	
MIN	-0.9		dpm/100 cm^2
MAX	5.8		dpm/100 cm^2
MEAN	0.1		dpm/100 cm^2
STD DEV	1.2		dpm/100 cm^2
TRANSURANIC DCGL$_W$	20		dpm/100 cm^2

SURVEY UNIT 551-B-003
TSA - DATA SUMMARY

Manufacturer:	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech
Model:	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#:	1	2	3	4	5
Serial #:	3104	3094	1513	1513	1241
Cal Due Date:	5/11/03	1/25/03	2/1/03	2/1/03	5/11/03
Analysis Date:	11/19/02	11/19/02	11/19/02	11/20/02	11/20/02
Alpha Eff. (c/d):	0.225	0.224	0.207	0.207	0.213
Alpha Bkgd (cpm)	0.0	0.0	5.3	2.0	3.3
Sample Time (min)	1.5	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5	1.5
MDC (dpm/100cm^2)	48.0	48.0	48.0	48.0	48.0

Manufacturer:	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech
Model:	DP-6	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#:	6	7	8	9	14	15
Serial #:	1513	1241	3094	394	3094	394
Cal Due Date:	2/1/03	5/11/03	1/25/03	1/12/03	1/25/03	1/12/03
Analysis Date:	11/20/02	11/21/02	11/21/02	11/21/02	12/2/02	12/9/02
Alpha Eff. (c/d):	0.207	0.213	0.224	0.228	0.224	0.228
Alpha Bkgd (cpm)	2.0	0.7	4.0	0.7	4.8	1.3
Sample Time (min)	1.5	1.5	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5	1.5	1.5
MDC (dpm/100cm^2)	48.0	48.0	48.0	48.0	48.0	48.0

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2)[1]
1	3	18	87.0	7.7	37.2	70.1
2	5	26.7	125.4	2.7	12.7	0.0
3	5	32.7	153.5	2	9.4	0.0
4	5	26.7	125.4	5.3	24.9	0.0
5	5	16	75.1	2.7	12.7	58.2
6	3	11.3	54.6	6.3	30.4	37.7
7	5	17.3	81.2	6	28.2	64.3
8	5	29.3	137.6	2.7	12.7	0.0
9	3	8	38.6	7.3	35.3	21.8
10	4	12	58.0	1.5	7.2	41.1
11	5	25.3	118.8	2.7	12.7	0.0
12	3	12.7	61.4	5.7	27.5	44.5
13	3	10	48.3	4.7	22.7	31.4
14	5	15.3	71.8	2	9.4	55.0
15	1	20	88.9	6.7	29.8	72.0
16	2	8.7	38.8	2.7	12.1	22.0
17	1	8.7	38.7	4	17.8	21.8
18	5	9.3	43.7	0.7	3.3	26.8
19	3	13.3	64.3	8	38.6	47.4
20	5	17.3	81.2	3.3	15.5	64.3
21	4	10	48.3	5.3	25.6	31.4
22	1	14	62.2	3.3	14.7	45.4
23	5	33.3	156.3	1.3	6.1	0.0
24	4	8	38.6	3.3	15.9	21.8
25	2	7.3	32.6	4	17.9	15.7
26	5	10	46.9	1.3	6.1	30.1
27	5	2.7	12.7	2.7	12.7	-4.2
28	1	4.7	20.9	2	8.9	4.0
29	4	15.3	73.9	3.3	15.9	57.0
30	4	10.7	51.7	2	9.7	34.8
31	4	14	67.6	7.3	35.3	50.8
32	5	14.7	69.0	0.7	3.3	52.1
33	4	13.3	64.3	4	19.3	47.4
34	2	6.7	29.9	2.7	12.1	13.0
35	4	11.3	54.6	1.3	6.3	37.7
36	7	56.7	266.2	1.7	8.0	0.0
37	3	8.7	42.0	7.9	38.2	25.2
38	5	26.7	125.4	2	9.4	0.0

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SURVEY UNIT 551-B-003
TSA - DATA SUMMARY

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2)[1]
39	6	12	58.0	4.7	22.7	41.1
40	5	14	65.7	1.3	6.1	48.9
41	5	44.7	209.9	3.3	15.5	0.0
42	1	6	26.7	6.7	29.8	9.8
43	3	14	67.6	8	38.6	50.8
44	7	39.3	184.5	0.7	3.3	0.0
45	3	14.5	70.0	7	33.8	53.2
46	2	10.3	46.0	5.3	23.7	29.1
47	5	16.7	78.4	2.7	12.7	61.5
48	5	14	65.7	2	9.4	48.9
49	5	36	169.0	0.7	3.3	0.0
50	7	40.7	191.1	2	9.4	0.0
51	3	10.7	51.7	7.3	35.3	34.8
52	1	4	17.8	2	8.9	0.9
53	2	14.7	65.6	2.3	10.3	48.8
54	5	40	187.8	2.7	12.7	0.0
55	5	13.3	62.4	1.3	6.1	45.6
56	5	30.7	144.1	3.3	15.5	0.0
57	5	12.7	59.6	3.3	15.5	42.8
58	5	12	56.3	4.7	22.1	39.5
59	5	6	28.2	3.3	15.5	11.3
60	7	38.7	181.7	3.7	17.4	0.0
61	14	4.7	21.0	3.3	14.7	4.1
62	7	48.7	228.6	2.7	12.7	0.0
63	7	151	708.9	2.7	12.7	0.0
64	7	15.3	71.8	3.7	17.4	55.0
65	14	14	62.5	3.3	14.7	45.6
66	7	43.3	203.3	3.7	17.4	0.0
67	6	27.3	131.9	2.7	13.0	0.0
68	6	24	115.9	1.3	6.3	0.0
69	6	33.3	160.9	4.7	22.7	0.0

1 - Average LAB used to subtract from Gross Sample Activity

16.9	Sample LAB Average
MIN	-4.2
MAX	72.0
MEAN	26.3
SD	23.5
Transuranic $DCGL_W$	100

QC Measurements

19QC	9	11.3	49.6	4	17.5	37.8
6QC	9	18	78.9	2.7	11.8	67.2
25QC	9	4	17.5	2	8.8	5.8
16QC	9	6.7	29.4	2	8.8	17.7

1 - Average QC LAB used to subtract from Gross Sample Activity

11.7	QC LAB Average
MIN	5.8
MAX	67.2
MEAN	32.1
Transuranic $DCGL_W$	100

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SURVEY UNIT 551-B-003
TSA - DATA SUMMARY

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2)[1]

TSA Data Summary Comments

Initial Sample Net Activity results:

Location	Initial Survey result (dpm/100cm^2)	Action / Investigation
2	108.6	exposed rusty metal - coupon collected and analyzed - See Note 2 below
3	136.8	exposed rusty metal - coupon collected and analyzed - See Note 2 below
4	108.6	exposed rusty metal - coupon collected and analyzed - See Note 2 below
8	120.8	exposed rusty metal - coupon collected and analyzed - See Note 2 below
11	102	exposed rusty metal - coupon collected and analyzed - See Note 2 below
23	139.6	exposed rusty metal - coupon collected and analyzed - See Note 2 below
36	249.5	exposed rusty metal - coupon collected and analyzed - See Note 2 below
38	108.5	exposed rusty metal - coupon collected and analyzed - See Note 2 below
41	193.1	exposed rusty metal - coupon collected and analyzed - See Note 2 below
44	167.8	exposed rusty metal - coupon collected and analyzed - See Note 2 below
49	152.3	exposed rusty metal - coupon collected and analyzed - See Note 2 below
50	174.3	exposed rusty metal - coupon collected and analyzed - See Note 2 below
54	171.1	exposed rusty metal - coupon collected and analyzed - See Note 2 below
56	127.4	exposed rusty metal - coupon collected and analyzed - See Note 2 below
60	165	exposed rusty metal - coupon collected and analyzed - See Note 2 below
62	211.9	exposed rusty metal - coupon collected and analyzed - See Note 2 below
63	692.2	exposed rusty metal - coupon collected and analyzed - See Note 2 below
66	186.6	exposed rusty metal - coupon collected and analyzed - See Note 2 below
69	144.1	exposed rusty metal - coupon collected and analyzed - See Note 2 below
61	126.5	re-survey results reported - See Note 3 below
65	136.8	re-survey results reported - See Note 3 below
67	115.1	media sample collected and analyzed - See Note 4 below
68	99.2	media sample collected and analyzed - See Note 4 below

2.) A coupon sample was collected from location 63, and analyzed using the Canberra ISOCS system. No transuranic isotopes were detected. Roof sample activity was determined to be from uranium and other naturally occuring isotopes. A roof sample collected and analyzed during the RLC survey also showed no DOE added radioactivity. The Sample Net Activity for each location is below the Uranium DCGL$_w$ limits (5,000 dpm/100cm^2). All survey results are less than the applicable DCGLs, therefore, no further investigation is required. On this basis, transuranic values for locations listed above are reported as zero (0) net activity in the TSA Data Summary.

3.) Locations 61 and 65 had initial elevated survey results. These locations were allowed to decay and then re-surveyed, re-survey results are reported in the above table.

4.) Media samples were collected from the surface at locations 67 and 68 and analyzed using the Canberra ISOCS system. No transuranic isotopes were detected, sample activity was determined to be from uranium and naturally occuring isotopes. The media sample results were converted to dpm/100cm^2 as calculated on the Media Sample Conversion sheet. The calculated uranium value of 282.7 dpm/100cm^2 is below the DCGL$_w$ limits (5,000 dpm/100cm^2) for uranium. All survey results are less than the applicable DCGLs, therefore, no further investigation is required. On this basis, transuranic values for locations 67 and 68 are reported as zero (0) net activity in the TSA Data Summary.

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551-B-003
Media Sample Conversion Sheet

LOCATION DESCRIPTION	SAMPLE LOCATION NUMBER	SITE SAMPLE ID	NUCLIDE	pCi/g (2)	MDA (pCi/g)	WEIGHT (g)	SURFACE AREA (in^2)	INDIVIDUAL NUCLIDE ($dpm/100cm^2$) (3)	ESTIMATED MDA ($dpm/100cm^2$) (4)	URANIUM TOTAL ($dpm/100cm^2$)	TRANSURANIC TOTAL ($dpm/100cm^2$)
B551	67, 68	03S0071-004.001	U-234	1.220	0.205	77.2	24.5	132	22		
			U-235	0.167	0.028			18	3		
			U-238	1.220	0.205			132	22	**282.7**	
			Pu-239 Pu-240	0.000	0.253			0	27		
			Am-241	0.000	0.035			0	4		**0.0**

(1) Concrete samples collected in B551were analyzed using the Canberra ISOCS Gamma Spectroscopy system.

(2) Critical Level test criterion were utilized in this analysis. If the net peak area was less than the L_C (critcal level), then a "not detected" or "zero" decision was made. The L_C value is always less than the applicable MDA, but greater than zero.

(3) Individual nuclide dpm/100 cm^2 conversion is conservatively based on the composite sample weight. This assumption presumes that the total sample activity. from composited samples is located at one, single sample location. This methodology ensures that no single sample location exceeds the applicable $DCGL_W$.

(4) Estimated MDA dpm/100 cm^2 conversion is conservatively based on the composite sample weight.

SURVEY UNIT 551-B-003
RSC - DATA SUMMARY

Manufacturer:	Eberline	Eberline	Eberline	Eberline
Model:	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#:	10	11	12	13
Serial #:	959	833	963	952
Cal Due Date:	1/18/03	2/28/03	1/3/03	1/31/03
Analysis Date:	11/25/02	11/25/02	11/25/02	11/25/02
Alpha Eff. (c/d):	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.2	0.0	0.1	0.3
Sample Time (min)	2	2	2	2
Bkgd Time (min)	10	10	10	10
MDC (dpm/100cm^2)	9.0	9.0	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
1	10	0	-0.6
2	11	0	0.0
3	12	4	5.8
4	13	0	-0.9
5	10	0	-0.6
6	11	0	0.0
7	12	1	1.2
8	13	2	2.1
9	10	0	-0.6
10	11	0	0.0
11	12	0	-0.3
12	13	0	-0.9
13	10	0	-0.6
14	11	1	1.5
15	12	0	-0.3
16	13	1	0.6
17	10	0	-0.6
18	11	0	0.0
19	12	0	-0.3
20	13	0	-0.9
21	10	0	-0.6
22	11	0	0.0
23	12	0	-0.3
24	13	1	0.6
25	10	0	-0.6
26	11	0	0.0
27	12	1	1.2
28	13	0	-0.9
29	10	0	-0.6
30	11	0	0.0
31	12	0	-0.3
32	13	0	-0.9
33	10	0	-0.6
34	11	0	0.0
35	12	0	-0.3

SURVEY UNIT 551-B-003
RSC - DATA SUMMARY

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
36	13	0	-0.9
37	10	0	-0.6
38	11	0	0.0
39	12	3	4.2
40	13	0	-0.9
41	10	1	0.9
42	11	0	0.0
43	12	0	-0.3
44	13	0	-0.9
45	10	0	-0.6
46	11	0	0.0
47	12	1	1.2
48	13	0	-0.9
49	10	0	-0.6
50	11	0	0.0
51	12	0	-0.3
52	13	1	0.6
53	10	0	-0.6
54	11	0	0.0
55	12	1	1.2
56	13	0	-0.9
57	10	1	0.9
58	11	0	0.0
59	12	0	-0.3
60	13	0	-0.9
61	10	0	-0.6
62	11	1	1.5
63	12	2	2.7
64	13	1	0.6
65	10	0	-0.6
66	11	2	3.0
67	12	1	1.2
68	13	0	-0.9
69	10	1	0.9
		MIN	-0.9
		MAX	5.8
		MEAN	0.1
		SD	1.2
		Transuranic $DCGL_W$	**20**

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CANBERRA

Analysis Results Header 12/13/2002 11:32:54 AM Page 1

****
***** GAMMA SPECTRUM ANALYSIS *****
** Canberra Mobile Laboratory Services **
****

Report Generated On : 12/13/2002 11:32:54 AM

RIN Number : 03S0071
Analytical Batch ID : 0212124453
Line Item Code : RC10B019

B551
551-B-003
Roof metal coupon
LOCATION #63

Filename: S:\GENIE2K\CAMFILES\LI009(D)\ORIG\D1900002.CNF

Sample Number : 03S0071-005.001
Lab Sample Number : CMLS-2010
Sample Receipt Date : 12/12/2002
Sample Volume Received : 2.24E+001 GRAM

Result Identifier : N/A

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 100 - 8192
Peak Area Range (in channels) : 100 - 8192
Identification Energy Tolerance : 1.000 keV

Sample (Final Aliquot Size) : 2.240E+001 GRAM
Sample Quantity Error : 0.000E+000
Systematic Error Applied : 0.000E+000

Sample Taken On : 12/11/2002 1:40:00 PM
Acquisition Started : 12/12/2002 8:05:45 AM

Count Time : 14400.0 seconds
Real Time : 14401.2 seconds
Dead Time : 0.01 %

Energy Calibration Used Done On : 10/4/02
Energy = -0.113 + 0.250*ch + -1.63E-007*ch^2 + 2.03E-011*ch^3

Corrections Applied:
None

Efficiency Calibration Used Done On : 12/13/02
Efficiency Geometry ID : 03S0071-005.001

Analyzed By: Phil Sanderson Date: 12/13/02

Reviewed By: Sean Stanfield Date: 12/13/02

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****
***** Sample and QC Sample Results Summary *****
****

Site Sample ID : 03S0071-005.001

Analytical Batch ID : 0212124453

Sample Type (Result Identifier): D19

Lab Sample Number : CMLS-2010

Geometry ID : 03S0071-005.001

Filename: S:\GENIE2K\CAMFILES\LI009(D)\ORIG\D1900002.CNF

Detector Name: BEGE

B551

Location #63

MDA = Curie method as specified in Genie-2000 Customization Tools Manual Appendix B; Basic Algorithms.

Analyte	Activity (pCi/GRAM)	2-Sigma Uncertainty (pCi/GRAM)	MDA (pCi/GRAM)
K-40n	1.56E+000	7.29E-001	9.86E-001
CS-137n	0.00E+000	0.00E+000	1.35E-001
TL-208n	0.00E+000	0.00E+000	1.35E-001
PO-210in	0.00E+000	0.00E+000	1.44E+004
BI-212n	0.00E+000	0.00E+000	1.76E+000
PB-212n	0.00E+000	0.00E+000	1.20E-001
BI-214n	0.00E+000	0.00E+000	2.81E-001
PB-214n	0.00E+000	0.00E+000	2.12E-001
RA-226n	1.08E+000	3.61E-001	8.90E-001
AC-228n	0.00E+000	0.00E+000	5.59E-001
TH-230n	0.00E+000	0.00E+000	1.13E+001
Th-231n	0.00E+000	0.00E+000	4.86E-001
PA-234Mn	0.00E+000	0.00E+000	1.60E+001
PA-234n	0.00E+000	0.00E+000	1.20E-001
U-235	6.66E-002	2.22E-002	5.51E-002
U238/234	9.54E-001	1.67E+000	5.22E-001
AM-241	0.00E+000	0.00E+000	1.18E-001

i - If Po-210 is detected in the spectrum. This peak may be the result of the interaction of Pb-206(n,n')which also produces a prompt gamma at 803 keV.

n - Non-contractual Nuclide

B551

CANBERRA

Analysis Results Header 2/04/2002 8:22:33 AM Page 1

****
***** GAMMA SPECTRUM ANALYSIS *****
** Canberra Mobile Laboratory Services **
****

Report Generated On : 2/04/2002 8:22:33 AM

RIN Number : 02D0736
Analytical Batch ID : 0201314467
Line Item Code : RC10B019

Filename: A:\G1900065.CNF

Sample Number : 02D0736-001.001
Lab Sample Number : CMLS-909
Sample Receipt Date : 1/31/2002
Sample Volume Received : 8.20E+000 GRAMS

Result Identifier : N/A

Peak Locate Threshold : 3.00
Peak Locate Range (in channels) : 100 - 8192
Peak Area Range (in channels) : 100 - 8192
Identification Energy Tolerance : 1.500 keV

Sample (Final Aliquot Size) : 8.200E+000 GRAMS
Sample Quantity Error : 0.000E+000
Systematic Error Applied : 0.000E+000

Sample Taken On : 1/31/2002 10:30:00 AM
Acquisition Started : 1/31/2002 12:48:49 PM

Count Time : 7200.0 seconds
Real Time : 7203.2 seconds
Dead Time : 0.04 %

551-B-003
Roof metal coupon collected as part of RLC

Energy Calibration Used Done On : 1/14/02
Energy = -0.509 + 0.250*ch + -6.15E-008*ch^2 + 6.19E-012*ch^3

Corrections Applied:
None

Efficiency Calibration Used Done On : 1/31/02
Efficiency Geometry ID : 02D0736-001.001

Analyzed By: Lee Jones Date: 2/4/02

Reviewed By: Sheri Chambers Date: 2/4/02

Page 12 of 1

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B551

CANBERRA

****
***** Sample and QC Sample Results Summary *****
****

Site Sample ID : 02D0736-001.001

Analytical Batch ID : 0201314467

Sample Type (Result Identifier): G19

Lab Sample Number : CMLS-909

Geometry ID : 02D0736-001.001

Filename: A:\G1900065.CNF

Detector Name: LEGE

MDA = Curie method as specified in Genie-2000 Customization Tools Manual Appendix B; Basic Algorithms.

Analyte	Activity (pCi/GRAMS)	2-Sigma Uncertainty (pCi/GRAMS)	MDA (pCi/GRAMS)
K-40	2.69E+002	3.03E+001	2.23E+001
TL-208	0.00E+000	0.00E+000	1.52E+000
PO-210	0.00E+000	0.00E+000	1.70E+005
BI-212	0.00E+000	0.00E+000	2.71E+001
PB-212	3.65E+000	1.06E+000	1.66E+000
BI-214	6.10E+000	1.86E+000	2.91E+000
PB-214	0.00E+000	0.00E+000	2.77E+000
RA-224	0.00E+000	0.00E+000	2.30E+001
RA-226	0.00E+000	0.00E+000	1.99E+001
AC-228	0.00E+000	0.00E+000	5.82E+000
TH-230	0.00E+000	0.00E+000	7.91E+001
Th-231	1.14E+001	3.90E+000	4.91E+000
NP/U-233	0.00E+000	0.00E+000	3.02E+000
PA-234	0.00E+000	0.00E+000	1.42E+000
PA-234M	0.00E+000	0.00E+000	1.89E+002
U-235	0.00E+000	0.00E+000	1.24E+000
U238/234	0.00E+000	0.00E+000	5.88E+000
AM-241	0.00E+000	0.00E+000	8.61E-001

CANBERRA

Analysis Results Header 12/13/2002 11:16:50 AM Page 1

```
**********************************************************************
*****      G A M M A   S P E C T R U M   A N A L Y S I S      *****
** C a n b e r r a  M o b i l e  L a b o r a t o r y  S e r v i c e s **
**********************************************************************
```

Report Generated On : 12/13/2002 11:16:50 AM

RIN Number : 03S0071
Analytical Batch ID : 0212124453
Line Item Code : RC10B019

B551
551-B-003
Concrete Mock
Locations 67, 68

Filename: S:\GENIE2K\CAMFILES\LI009(D)\ORIG\D1900003.CNF

Sample Number : 03S0071-004.001
Lab Sample Number : CMLS-2009
Sample Receipt Date : 12/12/2002
Sample Volume Received : 7.72E+001 GRAM

Result Identifier : N/A

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 100 - 8192
Peak Area Range (in channels) : 100 - 8192
Identification Energy Tolerance : 1.000 keV

Sample (Final Aliquot Size) : 7.720E+001 GRAM
Sample Quantity Error : 0.000E+000
Systematic Error Applied : 0.000E+000

Sample Taken On : 12/11/2002 1:30:00 PM
Acquisition Started : 12/12/2002 1:16:53 PM

Count Time : 57600.0 seconds
Real Time : 57608.0 seconds
Dead Time : 0.01 %

Energy Calibration Used Done On : 10/4/02
Energy = -0.113 + 0.250*ch + -1.63E-007*ch^2 + 2.03E-011*ch^3

Corrections Applied:
None

Efficiency Calibration Used Done On : 12/13/02
Efficiency Geometry ID : 03S0071-004.001

Analyzed By: Phil Sanderson Date: 12/13/02

Reviewed By: Sean Stanfield Date: 12/13/02

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****
***** Sample and QC Sample Results Summary *****
****

Site Sample ID : 03S0071-004.001

Analytical Batch ID : 0212124453

Sample Type (Result Identifier): D19

Lab Sample Number : CMLS-2009

Geometry ID : 03S0071-004.001

Filename: S:\GENIE2K\CAMFILES\LI009(D)\ORIG\D1900003.CNF

Detector Name: BEGE

MDA = Curie method as specified in Genie-2000 Customization Tools Manual Appendix B; Basic Algorithms.

Analyte	Activity (pCi/GRAM)	2-Sigma Uncertainty (pCi/GRAM)	MDA (pCi/GRAM)
K-40n	1.08E+001	6.07E-001	5.01E-001
CS-137n	2.46E-001	3.83E-002	5.63E-002
TL-208n	2.54E-001	2.89E-002	3.85E-002
PO-210in	0.00E+000	0.00E+000	4.79E+003
BI-212n	5.33E-001	2.15E-001	4.79E-001
PB-212n	8.11E-001	7.50E-002	3.66E-002
BI-214n	9.76E-001	6.98E-002	9.37E-002
PB-214n	1.12E+000	4.71E-002	7.86E-002
RA-226n	0.00E+000	0.00E+000	4.49E-001
AC-228n	7.97E-001	1.12E-001	1.71E-001
TH-230n	0.00E+000	0.00E+000	3.96E+000
Th-231n	1.80E-001	8.17E-002	1.47E-001
PA-234Mn	0.00E+000	0.00E+000	6.58E+000
PA-234n	0.00E+000	0.00E+000	5.16E-002
U-235	1.67E-001	2.50E-002	2.78E-002
U238/234	1.22E+000	2.18E-001	2.05E-001
AM-241	0.00E+000	0.00E+000	3.52E-002

i - If Po-210 is detected in the spectrum. This peak may be the result of the interaction of Pb-206(n,n')which also produces a prompt gamma at 803 keV.

n - Non-contractual Nuclide

ATTACHMENT C

Chemical Data Summaries and Sample Maps

PDS - Asbestos Data Summary

Sample Number	Map Survey Point Location	Room	Sample Location	Analytical Results
551-11062002-315-201	201	109	Light green paint on CMU, south wall	None Detected
551-11062002-315-202	202	109	Light green paint on CMU, east wall	Trace Chrysotile; < 0.25% Point Count
551-11062002-315-203	203	109	Beige & blue paint on CMU, north wall	None Detected
551-11062002-315-204	204	101	Black tar backing to fiberglass insulation panel, east wall	None Detected
551-11062002-315-205	205	Mezzanine	Drywall only, south wall	None Detected
551-11062002-315-206	206	Mezzanine	Drywall and joint compound, south wall	None Detected
551-11062002-315-207	207	106	Window caulking, south wall	3% Chrysotile; 0.75% Point Count
551-11062002-315-208	208	106	Window caulking, south wall	3% Chrysotile; 0.5% Point Count
551-11062002-315-209	209	106	Window caulking, west wall	2% Chrysotile; 0.5% Point Count
551-11062002-315-210	**210**	**101**	**Light green paint on CMU, north wall**	**1% Chrysotile; 1.25% Point Count**
551-11062002-315-211	211	101	Light green paint on CMU, north wall	1% Chrysotile; 0.5% Point Count
551-11062002-315-212	212	109	Sandy brown exterior finish at side door of Room 109	None Detected
551-11062002-315-213	**213**	**Roof**	**Silver paint and black tar**	**5% Chrysotile**
551-11062002-315-214	214	Roof	Silver paint and black tar	Not Analyzed
551-11062002-315-215	**215**	**Roof**	**Silver paint and black tar**	**10% Chrysotile**
551-11262002-315-201	216	West Wall	Sandy brown exterior finish plaster	None Detected
551-11262002-315-202	217	South Wall	Sandy brown exterior finish plaster	None Detected
551-11262002-315-203	218	East Wall	Sandy brown exterior finish plaster	None Detected

PDS - Beryllium Data Summary

Sample Number	Map Survey Point Location	Room	Sample Location	Result ($\mu g/100\ cm^2$)
Building 551				
551-11062002-315-101	101	109	On diagonal I-beam sway brace, east wall	< 0.1
551-11062002-315-102	102	109	On electrical duct, north wall	< 0.1
551-11062002-315-103	103	109	On concrete floor where south wall meets	< 0.1
551-11062002-315-104	104	101	On Red fire suppression pipe at ceiling	< 0.1
551-11062002-315-105	105	101	On concrete "window" ledge, east wall	< 0.1
551-11062002-315-106	106	101	1" angle iron brace, south wall	< 0.1
551-11062002-315-107	107	Mezzanine	Top of round green incandescent lamp shade, SW corner	< 0.1
551-11062002-315-108	108	Mezzanine	Top of fluorescent light fixture	< 0.1
551-11062002-315-109	109	Mezzanine	Top of steam line	< 0.1
551-11062002-315-110	110	Mezzanine	Top of water heater, NE corner	< 0.1
551-11062002-315-111	111	106	Top of fluorescent light fixture	< 0.1
551-11062002-315-112	112	101	Top of Schauer Heat Exchanger, SW corner	< 0.1
551-11062002-315-113	113	101	On concrete "window" ledge	< 0.1
551-11062002-315-114	114	101	On concrete "window" ledge	< 0.1
551-11062002-315-115	115	101	On concrete floor under shelving	< 0.1
551-11062002-315-116	116	107	On concrete floor of paint vault	< 0.1
551-11062002-315-117	117	107	On concrete floor of paint vault	< 0.1
551-11062002-315-118	118	101	On concrete floor at base of Column C-6	< 0.1
551-11062002-315-119	119	111	On concrete floor at base of south wall	< 0.1
551-11062002-315-120	120	111	On concrete ledge at floor, west wall	< 0.1
551-11062002-315-121	121	111	On horizontal brace of garage door, NW corner	< 0.1
551-11062002-315-122	122	111	On horizontal Red fire suppression pipe, south wall	< 0.1
551-11062002-315-123	123	111	On concrete floor	< 0.1
551-11062002-315-124	124	111	Top of 490 V electrical transformer, east wall	< 0.1
551-11062002-315-125	125	111	On angle iron horizontal rack, east wall	< 0.1

ATTACHMENT D

Data Quality Assessment (DQA) Detail

DATA QUALITY ASSESSMENT (DQA)

VERIFICATION & VALIDATION (V&V) OF RESULTS

V&V of the data confirm that appropriate quality controls are implemented throughout the sampling and analysis process, and that any substandard controls result in qualification or rejection of the data in question. The required quality controls and their implementation are summarized in a tabular, checklist format for each category of data – radiological surveys and chemical analyses (specifically asbestos and beryllium).

DQA criteria and results are provided in a tabular format for each suite of surveys or chemical analyses performed. The radiological survey assessment is provided in Table D-1, asbestos in D-2 and beryllium in Table D-3. A data completeness summary for all results is given in Table D-4.

All relevant Quality records supporting this report are maintained in the RISS Characterization Project File. The report will be submitted to the CERCLA Administrative Record for permanent storage within 30 days of approval by the Regulators. All radiological data are organized into Survey Packages, which correlate to unique (MARSSIM) Survey Units. Chemical data are organized by RIN (Report Identification Number) and are traceable to the sample number and corresponding sample location.

Beta/gamma survey designs were not implemented for Building 551 based on the conservatism of the transuranic limits used as DCGLs in the unrestricted release decision process. Survey designs were implemented based on the transuranic limits used as DCGLs in the unrestricted release decision process. Coupon and media samples were taken and analyzed by ISOCS Canberra gamma spectroscopy. Transuranic isotope activity and Uranium and/or other naturally occurring isotope activity were evaluated against, and were less than the Transuranic $DCGL_w$ (100 dpm/100cm^2) and the Uranium $DCGL_w$ (5,000 dpm/100cm^2) unrestricted release limits. Media results were converted to dpm/100cm^2 using the Media Conversion Table, evaluated against the transuranic DCGL limits, and are the values reported in the Radiological TSA Data Summary in support of the unrestricted release decision process.

Consistent with EPA's G-4 DQO process, the radiological survey design for each survey unit performed per PDS requirements was optimized by checking actual measurement results acquired during pre-demolition surveys against the model output with original estimates. Use of actual sample/survey (result) variances in the MARSSIM DQO model confirms that an adequate number of surveys were acquired.

DQA SUMMARY

In summary, the data presented in this report have been verified and validated relative to the quality requirements and project decisions as stated in the original DQOs. All data are useable based on qualifications stated herein and are considered satisfactory without qualification. All media surveyed and sampled yielded results less than their associated action levels and with acceptable certainties.

Based upon an independent review of the radiological data, it is determined that the original project DQOs satisfied MARSSIM guidance. All facility contamination levels were below applicable DCGL unrestricted release levels confirming a Type 1 facility classification. Minimum survey requirements were met, sampling/survey protocol was performed in accordance with applicable RSPs, survey units were properly designed and bounded, and instrument performance and calibration was verified as satisfactory. Media samples results were converted to dpm/100cm^2 using the Media Conversion Table in the Radiological Data Summary-PDS section. All results were less than the applicable Transuranic $DCGL_w$ (100 dpm/100cm^2) and the Uranium $DCGL_w$ (5,000 dpm/100cm^2), therefore, all results meet the PDS unrestricted release criteria.

Chain of Custody was intact; documentation was complete, hold times were acceptable (where applicable) and packaging integrity/custody seals were maintained throughout the sampling/analysis process. Level 2 Isolation Controls have been posted to prevent the inadvertent introduction of contamination into the facility. On this basis, Building 551 meets the unrestricted release criteria with the confidences stated herein.

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Table D-1 V&V of Building 551 Radiological Results

V&V CRITERIA, RADIOLGICAL SURVEYS		K-H RSP 16.00 Series MARSSIM (NUREG-1575)		[redacted]
QUALITY REQUIREMENTS				
	Parameters	Measure	Frequency	COMMENTS
ACCURACY	Initial calibrations	90%<x<110%	≥1	Multi-point calibration through the measurement range encountered in the field; programmatic records.
	Daily source checks	80%<x<120%	≥1/day	Performed daily/within range.
	Local area background: Field	typically < 10 dpm	≥1/day	All local area backgrounds were within expected ranges (i.e., no elevated anomalies.)
PRECISION	Field duplicate measurements for TSA	≥5% of real survey points	≥10% of reals	N/A
REPRESENTATIVENESS	MARSSIM methodology: Survey Units 551-A-001, 551-A-002 and 551-B-003.	statistical and biased	NA	Random w/ statistical confidence.
	Survey Maps	NA	NA	Random and biased measurement locations controlled/mapped to ±1m.
	Controlling Documents (Characterization Pkg; RSPs)	qualitative	NA	Refer to the Characterization Package (planning document) for field/sampling procedures (located in Project files); thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	Units of measure	dpm/100cm^2	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual surveys Usable results vs. unusable	>95% >95%	NA	See Table D-4 for details.
SENSITIVITY	Detection limits	TSA: ≤50 dpm/100cm^2 RA: ≤10 dpm/100cm^2	all measures	PDS MDAs ≤ 50% $DCGL_w$

Table E-2 V&V of Asbestos Results For Building 551

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
ASBESTOS	METHOD: EPA 600/R-93/116	LAB ---->	Reservoirs Environmental, Inc	
QUALITY REQUIREMENT		RIN ---->	RIN03Z0276 (#s 201-215) RIN03Z0422 (#s 216-218)	
		Measure	Frequency	COMMENTS
ACCURACY	Calibrations: Initial/continuing	below detectable amounts	≥1	Semi-quantitative, per (microscopic) visual estimation.
PRECISION	Actual Number Sampled LCSD Lab duplicates	all below detectable amounts	≥ 18 samples	Semi-quantitative, per (microscopic) visual estimation.
REPRESENTATIVENESS	COC	Qualitative	NA	Chain-of-Custody intact: completed paperwork, containers w/ custody seals.
	Hold times/preservation	Qualitative	NA	N/A
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	See original Chemical Characterization Package (planning document); for field/sampling procedures (located in project file;) thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	Measurement Units	% by bulk volume	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	Qualitative	NA	See Table D-4, final number of samples at Certified Inspector's discretion.
SENSITIVITY	Detection limits	<1% by volume	all measures	N/A

Table D-3 V&V of Building 551 Beryllium Results

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
BERYLLIUM	Prep: NMAM 7300 METHOD: OSHA ID-125G	LAB ---->	Johns Manville, Littleton, Co.	
		RIN ---->	RIN03Z0275	
QUALITY REQUIREMENTS		Measure	Frequency	COMMENTS
ACCURACY	Calibrations Initial	linear calibration	≥1	No qualifications significant enough to change project decisions, i.e. classification of a Type 1 Facility confirmed; all results were below associated action levels.
	Continuing	80%<%R<120%	≥1	
	LCS/MS	80%<%R<120%	≥1	
	Blanks – lab & field	<MDL	≥1	
	Interference check std (ICP)	NA	NA	
PRECISION	LCSD	80%<%R<120% (RPD<20%)	≥1	
	Field duplicate	all results < RL	≥1	
REPRESENTATIVENESS	COC	Qualitative	NA	
	Hold times/preservation	Qualitative	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	
COMPARABILITY	Measurement units	ug/100cm^2	NA	
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	>95% >95%	NA	
SENSITIVITY	Detection limits	MDL of 0.012 ug/100cm^2	all measures	

Table D-4 Data Completeness Summary For Building 551

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)[A]	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Asbestos	B551 (interior)	12 biased	18 biased (10 interior/8 exterior)	ACM present, greater than 1% by volume	40 CFR763.86; CCR 1001-10; EPA 600/R-93/116 RIN03Z0276 (Samples 201-215) and RIN03Z0422 (samples 216-218) ACM greater than 1% by volume identified at three (3) locations – range of 1% to 10% Chrysotile. The ACM will be managed and removed prior to demolition in accordance with CDPHE Regulation 8.
Beryllium	B551 (interior)	25 biased (interior)	25 biased (interior)	No contamination found at any location	10CFR850; OSHA ID-125G – RIN03Z0275 No results above the action level (0.2 ug/100cm^2) or investigative level (0.1 ug/100cm^2.)
Radiological	Survey Area 3 Survey Unit: 551-A-001 Bldg. 551 North (interior)	36 ά TSA (26 random/10 biased) 2 QC TSA and 36 α Smears (26 random/10 biased) 3% scan	52 ά TSA (26 random/26 biased) 2 QC TSA and 36 α Smears (26 random/10 biased) 3% scan minimum	No contamination at any location; all values below unrestricted release levels	Uranium and/or Transuranic DCGL$_w$ as applicable. Initial sample net activity at locations #7 (109.0 dpm/100cm^2) and #13 (242.9 dpm/100cm^2) were greater than the Transuranic DCGL$_w$ (100 dpm/100cm^2). Eight additional TSA measurements were collected from a surrounding square meter at each location. The average of the nine survey points collected at each location were less than the Transuranic DCGL$_w$ (100 dpm/100cm^2) and are the values reported in the TSA Data Summary (30.2 dpm/100cm^2 and 51.4 dpm/100cm^2 respectively).
Radiological	Survey Area 3 Survey Unit: 551-A-002 Bldg. 551 South (interior)	45 ά TSA (35 random/10 biased) 3 QC TSA and 45 α Smears (35 random/10 biased) 3% scan	46 ά TSA (35 random/11 biased) 3 QC TSA and 46 α Smears (35 random/11 biased) 3% scan minimum	No contamination at any location; all values below unrestricted release levels	Uranium and/or Transuranic DCGL$_w$ as applicable. The initial sample net activity for location 6 was 106.2 dpm/100cm^2 which is greater than the Transuranic DCGL$_w$ (100 dpm/100cm^2). In accordance with RSP 16.02 requirements, the location was allowed to decay and re-surveyed. The re-survey result (76.1 dpm/100cm^2) was less than the Transuranic DCGL$_w$ (100 dpm/100cm^2) and is the value reported in the PDS Data Summary.

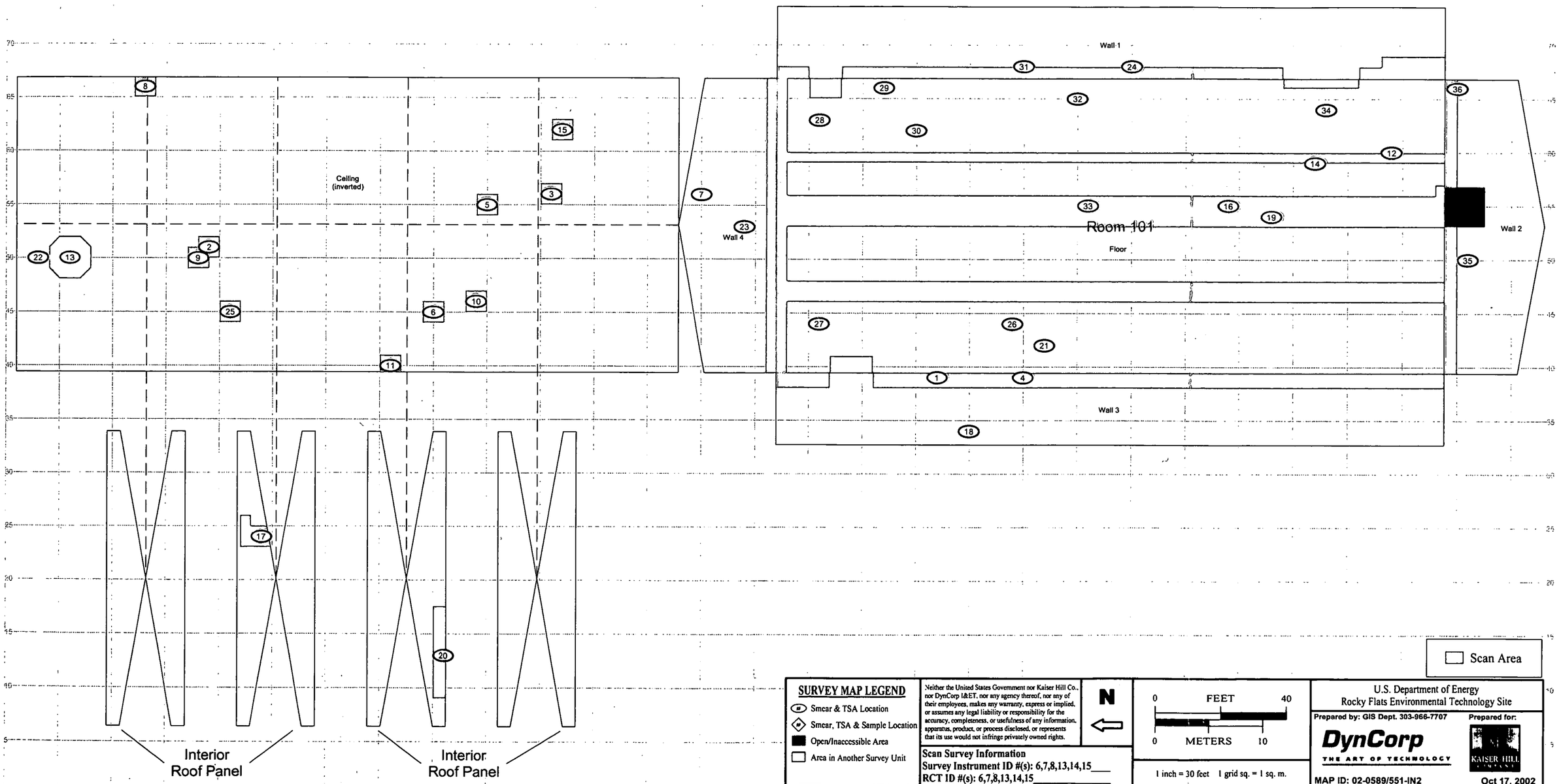
Table D-4 Data Completeness Summary For Building 551

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)[A]	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area 3 Survey Unit: 551-B-003 Bldg. 551 (exterior)	69 ά TSA (59 random/10 biased) 4 QC TSA and 69 α Smears (59 random/10 biased) 3% scan	69 ά TSA (59 random/10 biased) 4 QC TSA and 69 α Smears (59 random/10 biased) 3% scan minimum	No contamination at any location; all values below unrestricted release levels	Uranium and/or Transuranic $DCGL_w$ as applicable. • The initial sample net activity for locations 61 (126.5 dpm/100cm^2) and 65 (136.8 dpm/100cm^2) were greater than the Transuranic $DCGL_w$ (100 dpm/100cm^2). In accordance with RSP 16.02 requirements, the locations were allowed to decay and re-surveyed. The re-survey results (4.1 dpm/100cm^2 and 45.6 dpm/100cm^2 respectively) were less than the Transuranic $DCGL_w$ (100 dpm/100cm^2) and are the values reported in the TSA Data Summary. • Elevated alpha activity was detected at 19 roof exterior sample locations that were greater than the Transuranic $DCGL_w$ (100 dpm/100cm^2.) One coupon sample was taken from the highest location (#63 - 692.2 dpm/100cm^2) and analyzed by gamma spectroscopy. No DOE- Added (americium and plutonium) isotope activity was detected indicating only uranium and other naturally occurring isotopes were present. The sample net activity is below the Uranium $DCGL_w$ (5,000 dpm/100cm^2), therefore, no further investigation is required. On this basis, the transuranic values for these locations are reported as zero (0) in the TSA Data Summary. • Media samples were collected at locations 67 and 68 and analyzed by ISOCS Canberra gamma spectroscopy. Results were converted to dpm/100cm^2 using the Media Conversion Table found in the Radiological Data Summary. All results were below the Tranuranic $DCGL_w$ (100 dpm/100cm^2) and the Uranium $DCGL_w$ (5,000 dpm/100cm^2) unrestricted release limits. On this basis, sample net activity is reported as zero (0) in the TSA Data Summary for both locations.

[A] Number of asbestos samples required are an estimate only, final number of samples is at the discretion of IH.

PRE-DEMOLITION SURVEY FOR B551

Survey Area: 3 **Survey Unit: 551-A-001** **Classification: 3**
Building: 551
Survey Unit Description: B551 Interior North Side
Total Area: 5182 sq. m. **Total Floor Area: 1697 sq. m.**



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40
0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s): 6,7,8,13,14,15
RCT ID #(s): 6,7,8,13,14,15

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

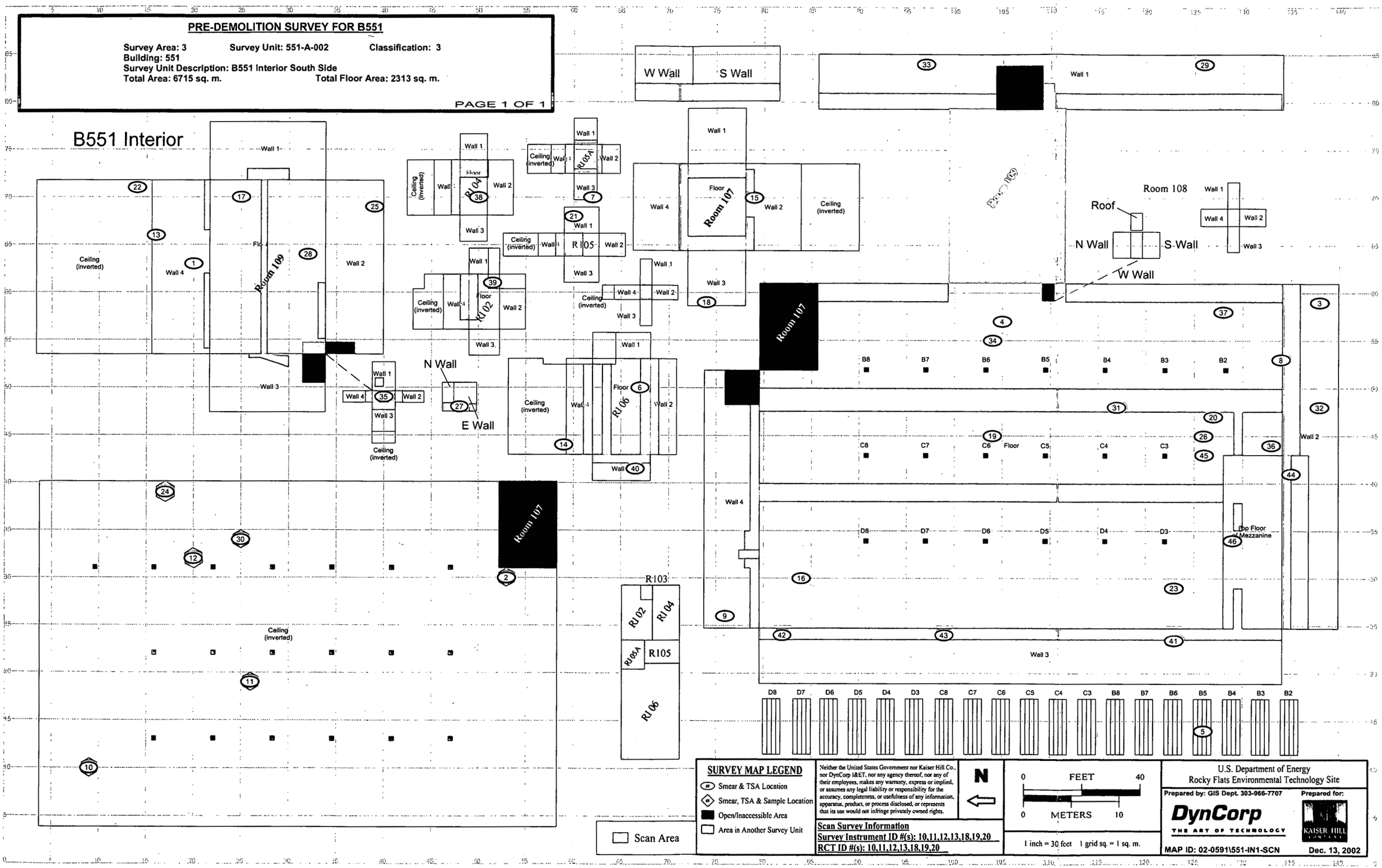
KAISER HILL COMPANY

MAP ID: 02-0589/551-IN2 Oct 17, 2002

PRE-DEMOLITION SURVEY FOR B551

Survey Area: 3 **Survey Unit: 551-A-002** **Classification: 3**
Building: 551
Survey Unit Description: B551 Interior South Side
Total Area: 6715 sq. m. **Total Floor Area: 2313 sq. m.**

B551 Interior



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

Scan Survey Information
Survey Instrument ID #(s): 10,11,12,13,18,19,20
RCT ID #(s): 10,11,12,13,18,19,20

N

0 FEET 40
0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

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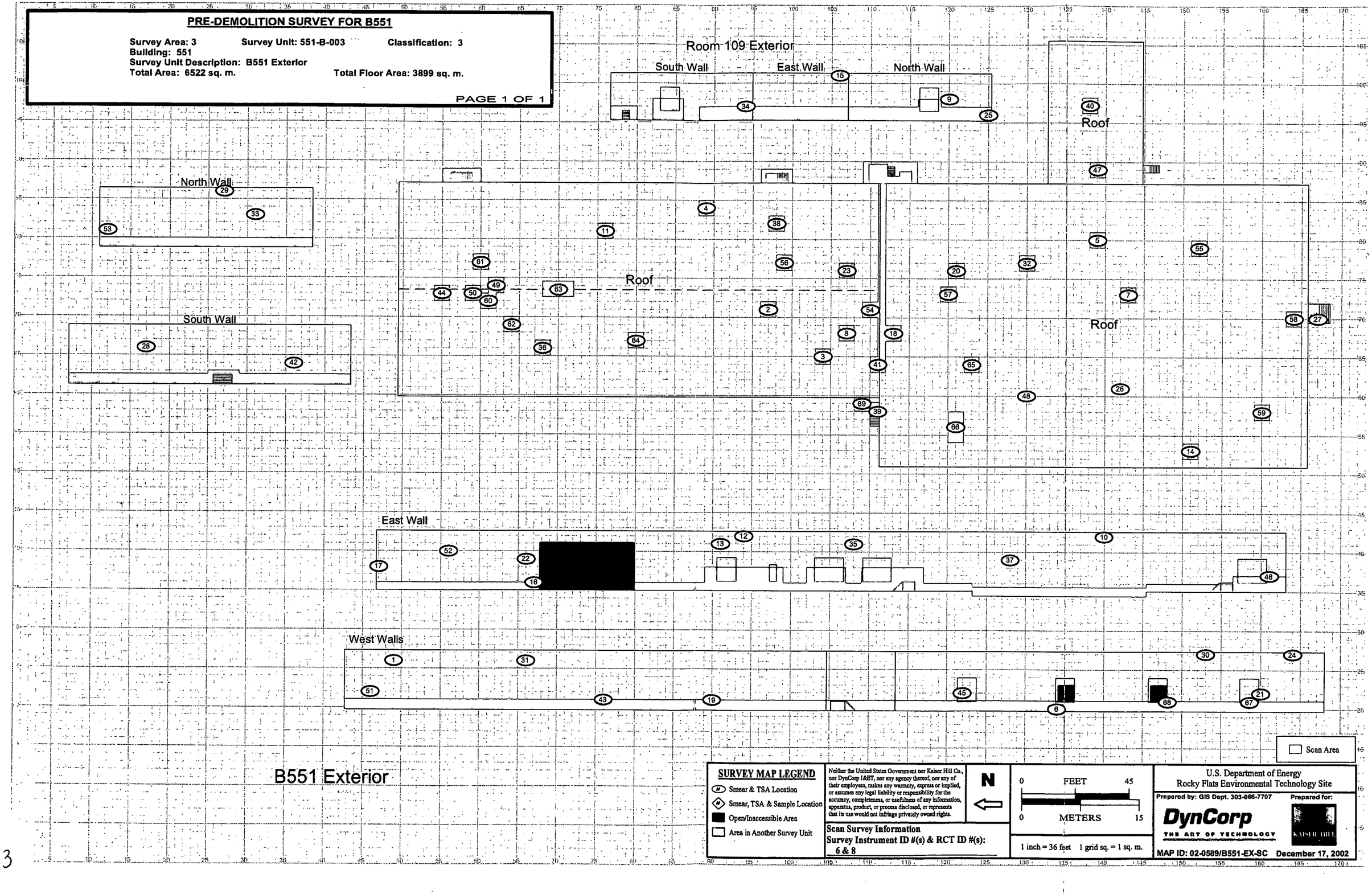
KAISER HILL COMPANY

MAP ID: 02-0591\551-IN1-SCN
Dec. 13, 2002

PRE-DEMOLITION SURVEY FOR B551

Survey Area: 3 **Survey Unit: 551-B-003** **Classification: 3**
Building: 551
Survey Unit Description: B551 Exterior
Total Area: 6522 sq. m. **Total Floor Area: 3899 sq. m.**



B551 Exterior

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
6 & 8

N

0 FEET 45
0 METERS 15

1 inch = 36 feet 1 grid sq. = 1 sq. m.

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THE ART OF TECHNOLOGY

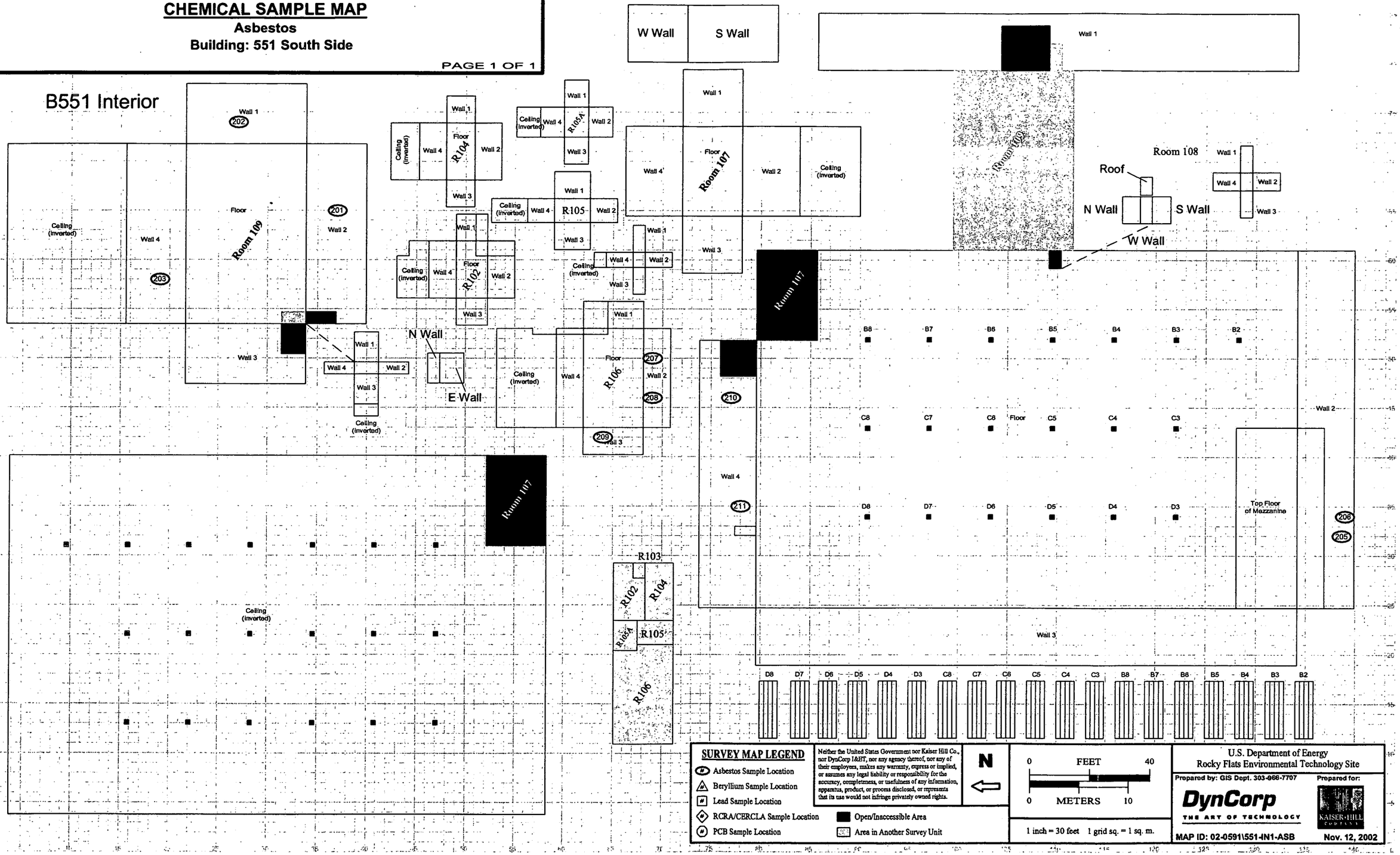
KAISER HILL

MAP ID: 02-0589/B551-EX-SC December 17, 2002

CHEMICAL SAMPLE MAP

Asbestos

Building: 551 South Side



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

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KAISER-HILL COMPANY

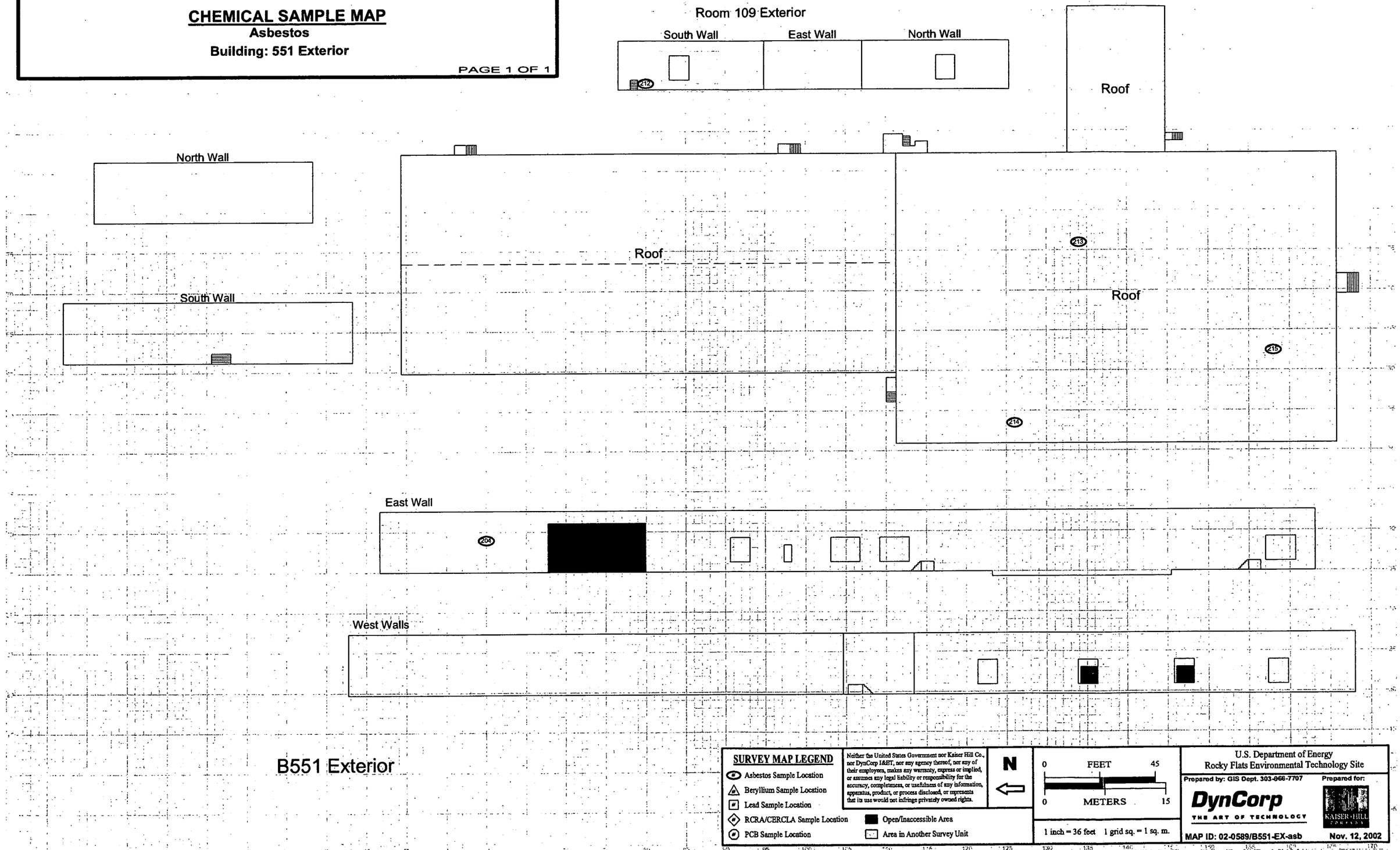
MAP ID: 02-0591\551-IN1-ASB

Nov. 12, 2002

CHEMICAL SAMPLE MAP

Asbestos

Building: 551 Exterior



B551 Exterior

SURVEY MAP LEGEND	
Asbestos Sample Location	Open/Inaccessible Area
Beryllium Sample Location	Area in Another Survey Unit
Lead Sample Location	
RCRA/CERCLA Sample Location	
PCB Sample Location	

N

0 FEET 45

0 METERS 15

1 inch = 36 feet 1 grid sq. = 1 sq. m.

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MAP ID: 02-0589/B551-EX-asb

Nov. 12, 2002

CHEMICAL SAMPLE MAP

Asbestos

Building: 551 Exterior

Room 109 Exterior

South Wall | East Wall | North Wall

Roof

North Wall

Roof

South Wall

Roof

217

East Wall

218

West Walls

216

B551 Exterior

SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 45

0 METERS 15

1 inch = 36 feet 1 grid sq. = 1 sq. m.

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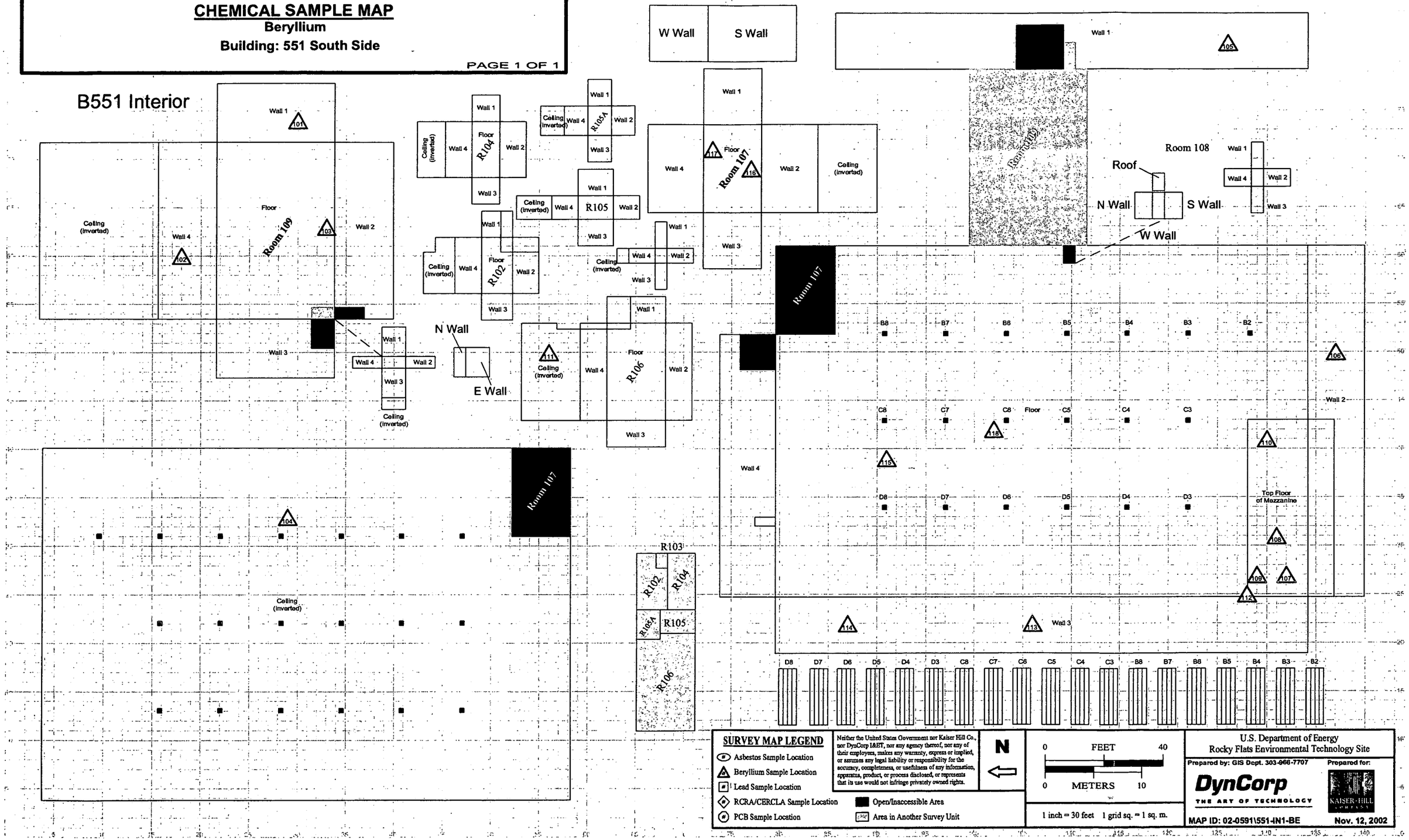
MAP ID: 02-0589/B551-EX-asb

Dec. 2, 2002

CHEMICAL SAMPLE MAP

Beryllium

Building: 551 South Side



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

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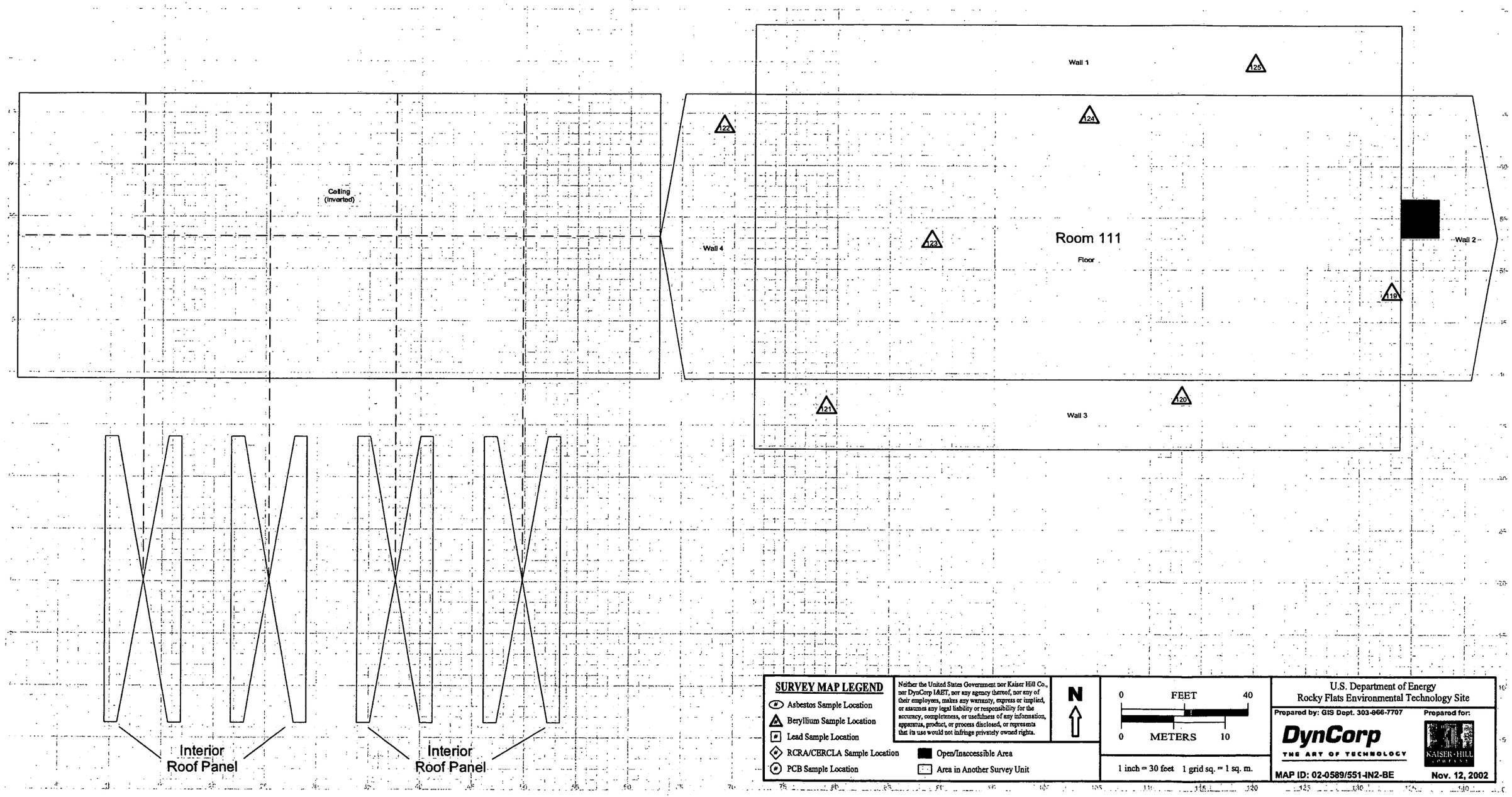
MAP ID: 02-0591\551-IN1-BE

Nov. 12, 2002

50

CHEMICAL SAMPLE MAP

Beryllium
Building: 551 North Side



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

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Nov. 12, 2002